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ABSTRACT

Seven papers address the employment of individuals with mental retardation. The first cites nine values critical for employment programs, including opportunities in integrated settings and decent pay for meaningful work. The next paper offers a supported work program consisting of job placement, job-site training, ongoing assessment, and job retention. The model is then applied to demonstrate the ability of severely disabled mentally retarded persons to work competitively. Demographic data from a longitudinal examination of the supported work model over a 6-year period are presented. A summary follows of data regarding job separations of mentally retarded persons placed in competitive employment. A systems approach to program evaluation of the supported work model is described with outcomes at the systems level (benefit cost analysis), service delivery level (a program efficiency index), and participant level (time employed first year in labor market). The final paper describes a model for improving employment services to persons with severe disabilities using existing state and local financial and personnel resources. (CL)

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General Papers and Studies Related to the Employment of Individuals with Mental Retardation

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CRITICAL VALUES IN EMPLOYMENT PROGRAMS FOR PERSONS WITH DEVELOPMENTAL DISABILITIES

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Abstract

The purpose of this paper is to delineate a number of important values which are essential in effective employment programs for persons with developmental disabilities. There are many efforts occurring nationally to create new vocational programs for disabled persons and hence it is necessary to articulate key aspects of meaningful employment programs. In this paper we identified the following nine values: a) employment in integrated settings; b) decent pay; c) the need for vocational choices; d) avoiding "charity" work; e) vocational training to reflect local labor needs; f) parent involvement in planning; g) parent education relative to social security laws; h) community-based vocational training; and i) systematically planned transition. These values are described and examples are given of each.

Critical Values In Employment Progam for Persons With Developmental Disabilities

With the increased federal emphasis on employment for persons with developmental disabilities (Elder, 1984; Will, 1984), there are, as might be expected, many new vocational programs being designed or redeveloped. This is a greatly needed priority since it is clear from several studies that the employment opportunities for developmentally disabled individuals have not been very good. Wolfe (1980) indicates that there is is major wage per hour discrepancy between disabled and nondisabled persons. She reports that disabled persons earn $2.55 per hour while their nondisabled counterparts earn better than $4.50 per hour.

Even worse than such poor wages are the unemployment rates which are in evidence nationally for those with disabilities. The United States Commission on Civil Rights (1983) reports that 50-75% of all disabled individuals are unemployed. This rate is similar to an earlier reported Department of Labor report in 1979 which reflected a 59% unemployment rate. There are other studies in different states which seem to reinforce these unacceptably high levels of unemployment. In Maryland, for example, (Crites, Smull, & Sachs, 1984), a survey of 1450 developmentally disabled persons found that only five percent of all persons were reported to have a regular job. Similarly a Virginia study of 263 parents of mentally retarded persons (Hill, Seyfarth, Orelove, Wehman, & Banks, 1985) revealed that only 13 (or also five percent) of these parents reported that their son or daughter had a regular job.

In Vermont (Hasazi, Preskill, Gordon, & Collins, 1982) and in Colorado (Mithaug & Horiuchi, 1983) studies have been conducted which assess the employment status of young developmentally disabled adults who have recently finished special education. Hasazi and her colleagues found an unemployment

rate of 46% and Mithaug and Horiuchi cited an unemployment level of 31%. In both states very poor wages had been earned by the young adults. In Virginia we (Wehman, Kregel, & Seyfarth, in press) have completed a follow-up study of 300 mentally retarded persons. Our preliminary data indicate that 58% of these individuals were unemployed with over 78% of the moderately and severely retarded population unemployed.

These statistics do not reflect favorably upon the vocational training and employment efforts which have been conducted previously. However, it is clear that the new federal initiatives and recently enacted Developmental Disabilities legislation are placing far greater emphasis on expanding employment opportunities and improving employment programs. To this end, we see the need to clarify what values should be dominant in successful employment programs for persons with developmental disabilities. Therefore, it is the purpose of this paper to identify numerous values which we feel are essential in the design of employment programs. Areas that we will address include nature of the work environment, amount of remuneration, type of training model, and parent role.

Employment Opportunities in Integrated Settings

A principle value which we hold is that employment opportunities need to be available in vocational settings where nonhandicapped persons work. Integrated settings are vocational environments in the community where jobs are performed principally by nonhandicapped workers. This is work which must be completed; it is not simulated or make-work. Sheltered workshop programs, adult activity centers, and other large segregated vocational centers should not be the first choice of placement for persons with disabilities.

There are several reasons why employment in nonsheltered, integrated settings is an important aspect of job placement. First, working with

nonhandicapped persons is normal and it represents participation in the mainstream of the nation's labor force. Second, nonsheltered employment provides an opportunity for those workers without handicaps to interact and become friends, often for the first time, with disabled persons. Third, work is frequently an activity which shows individuals with disabilities in a very competent role. This is highly advantageous for acceptance of the developmentally disabled person. A fourth reason for work-integrated settings is that there is literature (e.g., Shafer, in press) which suggests that developmentally disabled persons will perform better in settings where there are competent peer models to observe. Finally, although we do not have data to support this notion, anecdotal evidence over the years of our placement experiences strongly indicate that the self-perceptions of disabled persons who work in normalized, integrated settings are higher than those who are confined to sheltered or segregated environment.

Decent Pay Should Be Available For Meaningful Work

It is not sufficient for persons with developmental disabilities to work in nonsheltered and integrated environments. Decent wages need to be provided as a consequence of the meaningful work which is being performed. The notion of volunteer work which is espoused by some (Brown, Shiraga, York, Kessler, Strohm, Sweet, Zarella, VanDeventer, & Loomis, 1984) suggests that many developmentally disabled persons are excluded from work because employers are reluctant to pay them for less than adequate work performance. The Brown et al. (1984) thesis is that the opportunity to work for free in an integrated setting is more desirable than work in a sheltered enclave in industry or a sheltered workshop where money can be earned. Part of this thesis is based on the undeniable facts that most workshop wages are very poor for severely

disabled persons and also that clients in segregated programs do not usually exit these programs for long-term competitive employment (Whitehead, 1979). Bellamy and his associates (1984) have eloquently responded to the volunteer work philosophy by identifying a number of variables which the Brown et al. paper seems to have overlooked or minimized with the principle factor being that integration is only one dimension of employment and that decent pay is another critical dimension which influences quality of life and independence of lifestyle.

Our own view is that volunteer work for disabled adults may be misconstrued by many well meaning professionals and parents with the result being that many more disabled persons will not gain access to real jobs because they will be perceived to be either "too low functioning" or "not - ready yet". Furthermore, we are concerned that the tenet of volunteer work with no time limits will cast disabled persons in a negative light to nonhandicapped coworkers. It appears to us that work without pay is devaluing. Finally, we question whether a supported work approach to competitive employment has been used to the full extent with the problems which characterized the client(s) described in the Brown et al. (1984) paper.

It is our philosophy that jobs should result in pay which is not subsidized. We would favor a move to a minimum wage level for all clients with piece rate prorated contingent on performance over that minimum level. We do not support ridiculous pay levels of one dollar a day or other demeaning levels of remuneration. If a job is worth having, then there must be a decent pay level associated with it.

Clients Need to Have Vocational Choices

We all have vocational choices. In many cases, when we choose to stop work, we can. If we choose to select a different job and have the necessary

qualifications we can change fields. How many individuals with disabilities, especially severe disabilities, can say the same? As one reviews the type of services available it is clear that sheltered workshops, which number 5700 strong in the United States, are the principle choice for many persons with mental and physical disabilities. Within these workshops the main choices usually are: a) sheltered/benchwork employment for very poor pay; b) limited job placement with no support and follow-along; and c) occasionally, sheltered enclave arrangements in the community.

It is clear to us that clients need to have two types of choices (Gillespie, Personal Communication, October, 1984):

1) The choice to perform work in a variety of vocational settings and/or arrangements (i.e. with support in a real job; opportunity to work on a mobile work crew);

2) The choice to perform work in a variety of different vocational fields (i.e. technology, food service, clerical).

These are opportunities which historically have not been available and which very much need to be in place for students who leave school to enter the world of work for the first time as well as for those who are older and may want to change their career.

Charity Work Is Not Acceptable

Individuals with disabilities must perform their job at a similar level of proficiency as their nonhandicapped counterparts. Maintaining disabled persons on the payroll because of their disability is not constructive over the long run for those persons/or other disabled individuals who seek employment. In our experiences of using a supported work approach to competitive employment (Wehman & Kregel, 1984), it is clear that initial client training by the job coach or on-site staff person is a major factor in persuading the

employer of the individual's commitment to employment. This approach is also a reflection of how serious the client and staff person feel about employment.

Those professionals actively involved in job placement may be faced with the issue of whether to maintain a client in a job that is not being performed well. An employment specialist who is closely involved with the client and the job site often knows before the employer does the level of progress and adjustment being made by the client. This progress or lack of it may signal the need for movement to a more appropriate job. Such communication and partnership with the employer can only serve to tighten the relationship and respect the employer will have for the client and trainer.

Training Must Reflect Local Labor Market Needs

As noted in the previous section working with business and industry will enhance employment prospects for those with disabilities. Surveys of local businesses and industry should reveal potential appropriate jobs for persons with disabilities. General screening techniques such as checking classified advertisements and contacting employment agencies and Chambers of Commerce should reveal not only types of jobs available but also what jobs are most often available. Further contact by phone or in person with specific employers gives one an even better idea about the typos of job skills required and the rate of turnover on a particular job. This kind of information must be incorporated into school and community agency vocational training programs in terms of the types of jobs adolescents and young adults with handicaps are trained to enter. For example, a school in a community where there is always a need for farm laborers does its' students a disservice by training all the mentally retarded students in a year round food service vocational training program. On the other hand, training someone to be a farm laborer will be in

vain unless the specific methods used on local farms are trained in real work settings.

One way to assure that training reflects labor market needs is to establish a business advisory board that provides continued input into your training program (Wehman & Barcus, 1984). This board can also help with public relations and educational efforts between agencies and employers. Another method involves assigning a staff person to regularly assess the community for jobs and to work with businesses in formulating cooperatively sponsored training programs.

Parents Must be Involved in the Employment Process

Many parents and guardians are resistant to the idea of their son or daughter being placed in a competitive job in the community. Although we are just beginning to systematically study the reasons for this recalcitrance (Venn, DuBose, Merbler, 1977; Hill, Seyfarth, Orelove, Wehman, & Banks, 1985), it is understandable in view of most educational and rehabilitation programs that emphasize the limitations of citizens who are retarded and do not prepare them for real work. It is important to alleviate the fears of parents and to help change their negative attitudes because such fears impede the employment possibilities for many clients. For example, parents may be afraid for their child to learn to use public transportation or they may feel that their child will be taken advantage of on the job by coworkers. Parents may also not understand that they cannot visit a job-site to check on things or to complain to an employer as they may have done with school personnel. Most importantly, families have to know exactly what happens with social security and medical benefits once their child begins to work (Goodall, Wehman, & Cleveland, 1983).

Several strategies have been proposed for increasing parent participation in the employment process (Moon & Beale, 1984; Wehman, 1981). First, parents of retarded workers can form advisory committees to work with other parents who may be reluctant for their children to work. Second, the schools must change their preparation of students for work and get parents involved from the elementary grades. Third, professionals involved in the job training of citizens who are retarded must discuss openly with parents the concerns and try to resolve the problems before a job placement is made. Whether the problem is logistical (i.e., transportation, schedule, SSI) or attitudinal, a parent or guardian who is not supportive probably translates into a client who will not make it on the job. Finally, once a parent does agree to the placement of their son or daughter on a job, regular communication must persist so that the parent knows that training and guidance are always available.

Parents Must Be Knowledgable of The Vocational Alternatives Available and Social Security Laws

Hand in hand with the need for parents to be involved in the employment process is the need for them to be educated about the continuum of employment options that should be available for their son or daughter who has a disability (Anderson, Beckett, Chitwood, & Hayden, 1984). They also have to be informed about how their son or daughter's work can effect the family's financial situation. The misunderstanding of their child's employment potential in conjunction with the fear of losing government benefits are probably the major reasons for lack of parental support and involvement in the process.

Historically, it has been the action of parent groups that has ultimately improved services for citizens with disabilities (i.e. Public Law 94-142 and IEP guidelines). In the case of post-school services, however, many parents

are not aware that these programs are not mandated like school special education services and that their children are not entitled to services by any particular agency after graduation. It is probably the powerful lobbying of parent groups that can change adult service provision much as it has changed the services provided by schools.

Even in communities where some employment options exist, the entire array of nonsheltered work is typically not available. In order for parents to help change service provision, they have to be given information on model employment programs across the country and on federal and state initiatives designed to increase agency efforts to implement appropriate programs.

Concerning social security and medical benefits offered by the government to citizens who are retarded, families must understand that these benefits are not just taken away immediately after a job begins. All clients get a trial work period of up to nine months and a client is automatically reintitled to benefits if he or she loses the job within the first months of work (Wehman, 1981). In many cases, a person can be placed in a part-time job so as not to jeopardize the payment of medical benefits. Finally, in nearly all goverment cases where at least minimum wages are paid, the client will earn more than he or she was receiving in government subsidies. At any rate, professionals must understand the complicated social security payment system and be prepared to help families adjust to its replacement or reduction.

Training Must Reflect A Community-Based Orientation

Not only should pre-employment training reflect local labor market needs, but this training should be conducted in community-based settings (Bernstein, Rudrud, Ziarnak, Ferrara, 1984; Wehman & Hill, 1982). Community-based training usually curtails the use of commercially available curriculum with materials related to horticulture, furniture refinishing, and benchwork

activities because these activities do not match the jobs available in most communities (Wehman & Barcus, 1984). This type of training also requires the use of actual job settings at least part of the time which means that staff members will have to continually assess the community and establish relationships with business and industry. Even when early training occurs in a simulated setting, materials and the physical layout of the setting must match precisely jobs which have been carefully analyzed.

Community-based training will require most school and adult programs to make several changes in service provision. For example, transportation for staff and clients to settings in the community will have to be arranged. Insurance policies will have to be acquired that cover teachers and students while in settings outside the schools or adult facility. Finally, staffing and schedule patterns will have to be rearranged so that certain employees can devote full time to job development, job-site training, and client follow-up. Our experience has shown that for a full-time job trainer, the maximum caseload should be six to 10 which permits approximately one placement every six weeks to two months. For more severely handicapped students, the caseload may have to be smaller.

School-based vocational programs which are oriented toward employment should also include at least two hours per day of training in community-based job sites for 12-15 year old students. For older students, at least half their day should be spent in the community. In addition to this time spent on training actual job skills, more time should be allotted to training related skills such as transportation and banking in natural settings (e.g., Shafer, Inge, & Hill, 1984).

Community-based training of specific and related job skills is essential because it not only prepares the future worker but also because it exposes

employers and coworkers to the potential of the citizen who is handicapped.

School to Work Transition Must Be Planned

Although most school special education programs have a vocational training component, few of these programs have guided students into meaningful employment opportunities. This is borne out in several statewide studies indicating the extremely high unemployment rates of young adults who have recently graduated from special education (Hasazi et al., 1982; Mithaug & Horiuchi, 1983; Wehman et al., in press). Fortunately, the federal Office of Special Education and Rehabilitative Services has made school to work transition a national priority and has begun to set forth policies and provide special discretionary funds to agencies that are establishing model transition programs (Will, 1984). We see the school to work transition process for a student with a disability involving three key components including: a) an appropriate school program; b) formal individualized plans involving parents and the entire array of agencies responsible at any time for service provision; and c) multiple, quality options for gainful employment and meaningful post-school training (Wehman, Kregel, & Barcus, 1984).

Critical characteristics of an appropriate secondary school program include a longitudinally planned, functional curriculum, an integrated learning environment, and community-based service delivery. A longitudinal, functional curriculum implies that students begin developing vocational skills at an early age with increasing involvement as they become older. Early training during the elementary years must emphasize general work related skills such as attending to task, following schedules, completing assignments, independent mobility, grooming skills, and appropriate social interactions. Secondary training must be based on specific skills required in actual local employment situations, and youth should receive training in several potential

types of jobs. By the time a youth is ready to graduate, a specific job for which he or she has been trained, should be identified for full time placement.

The focal point of the transition process is the development of a formal, written plan for each student. Such a plan should be developed four years prior to graduation and modified yearly until the student has graduated and is working successfully. The plan can be part of the IEP during the school years and a component of the client's Individualized Written Rehabilitation Plan (IWRP) or other community service agency plan. The transition plan must specify throughout the years who is responsible for each phase of job training and follow-up. It is critical that all agency representatives meet regularly with the parents to adapt the plan and monitor its implementation. Although the agency assuming major responsibility for services will change over time, participants of the "transition team" should remain the same to assure continuity of services.

The result of a functional school program and meaningful transition plan should be gainful employment. However, this kind of successful transition cannot occur until communities provide many different vocational alternatives for persons with all types of disabilities. Some of these options include: a) regular, competetitive employment for citizens with mild handicaps (Brolin, 1982); b) competitive employment with on-going support for citizens with moderate and severe handicaps (Wehman & Kregel, 1984); c) sheltered enclaves in industry; and d) specialized industrial training (Bellamy, Horner, & Inman, 1979). In planning for transition, available options must be evaluated since these outcomes will determine curriculum objectives and the method of service delivery. When appropriate alternatives do not exist, parents and agencies must work together to create options.

Conclusion

In summary, there are many essential components of effective employment programs for citizens who are developmentally disabled. Two related components include the availability of vocational training and jobs in integrated environments or environments where jobs are principally performed by nonhandicapped workers. Third, vocational training must not only occur in real community job settings, but it must also reflect local labor market needs. A fourth component is the availability of vocational choices to individuals with disabilities such that these people and their families not only can choose to perform in a variety of settings but also in a variety of fields. A fifth component is the provision of decent pay as a consequence of meaningful work. Volunteer work or extremely low levels of pay may cast disabled persons in a negative light to nonhandicapped workers and in some cases may be self-devaluing to a worker. A sixth and related component is the provision of intensive and long term training procedures to ensure that workers with disabilities perform their jobs at a similar level to their nonhandicapped coworkers. Charity work does not justify decent wage levels. The seventh and eighth components involve parent education and parent participation in the employment process. Parents must understand the benefits and consequences of paid employment for their children and they must actively support efforts to achieve this if communities are ever to offer the full array of appropriate vocational alternatives. Finally, young adults with developmental disabilities must be formally and systematically moved from school to work through the work of parents and agencies working together to develop individual, written transition plans.

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A SUPPORTED WORK APPROACH TO COMPETITIVE EMPLOYMENT OF INDIVIDUALS WITH MODERATE AND SEVERE HANDICAPS

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Abstract

The purpose of this paper is to discuss how a supported work approach can improve the competitive employment opportunities for moderately and severely handicapped people. In this paper we emphasize the importance of competitive employment and describe the four major components of a supported work approach to nonsheltered employment. These are: job placement, job-site training, on-going assessment, and job retention. Also discussed are specific proposals for integrating a supported work system into sheltered workshops, community service programs, and secondary special education programs. A major conclusion of this paper is that significant policy and service delivery changes are necessary in order to overcome the extraordinarily high rate of unemployment among moderately and severely handicapped people.

A Supported Work Approach to Competitive Employment of Individuals With Moderate and Severe Handicaps

Severely handicapped individuals do not participate in the workforce to the same extent as nonhandicapped citizens. Today, despite improved public awareness of the rights of severely handicapped persons and significant increases in the number of day programs for adults (Bellamy, Sheehan, Horner, and Boles, 1980), hundreds of thousands of potentially employable individuals remain idle. Unemployment rates of 50 percent to 75 percent (U. S. Commission of Civil Rights, 1983) and average annual wages of $414 for retarded workshop clients (Whitehead, 1979) provide a dramatic description of the current deplorable state of affairs. Failure to incorporate persons with moderate and severe handicaps into the labor force wastes a valuable human resource. The cost of dependency in terms of public income maintenance and other forms of assistance places a tremendous strain on our nation's economy. Even greater are the human costs of idleness and dependency on the lives of severely handicapped people.

Research and demonstration activities during the past 10 years have resulted in significant improvements in the vocational training and placement of persons with severe handicaps. Early emphasis was placed almost exclusively on training severely retarded and multiple handicapped individuals to perform sheltered work tasks (Bates, Renzaglia, & Clees, 1982; Bellamy, Peterson, & Close, 1975; Gold, 1972; Hunter & Bellamy, 1977; O'Neill & Bellamy, 1978; Wehman, Renzaglia, Bates, & Schutz, 1977). Recently, additional efforts have been directed toward training and placing severely handicapped workers into less sheltered or nonsheltered settings which focus more on competitive employment.

For example, several investigators have reported success with job placement, job site training, and follow-up of moderately and some severely retarded clients. Sowers, Connis, and Thompson (1979) described the placement results of the

University of Washington Food Service Training Program which has clearly been one of the forerunners in this area. This program continues in a successful manner. In a similar vein, Kraus and MacEachron (1982) published the results of the Transitional Employment program for mentally retarded persons. In this report, it was found that participants' work behavior, ability to meet job requirements, and wages were predictors of competitive placement. Brickey and his colleagues (Brickey & Campbell, 1981; Brickey, Browning, & Campbell, 1982; Brickey, Campbell, & Browning, 1983) have also done an excellent job of placing, training, and tracking mentally retarded graduates of sheltered workshop programs. Brickey's work, in particular, highlights the cost-effective features of sheltered workshop programs that provide regular and systematic follow-up of placed clients. In Vermont, Williams and Vogelsburg (1980), have been active in demonstrating the competitive employment capabilities of moderately and severely handicapped workers in nonsheltered settings. Over 40 clients, primarily from adult day programs, have been successfully placed in the last two years.

In our own work over the past five years we began with simple case study demonstrations (e.g., Wehman, Hill, & Koehler, 1979) and have since moved to benefit cost analyses of our placed clients (Hill & Wehman, 1983) as well as an on-going follow-up of client progress (Wehman, Hill, Goodall, Cleveland, Pentecost, & Brooke, 1982; Wehman, M. Hill, J. Hill, Brooke, Ponder, Pentecost, Pendleton, & Britt, 1984). To date, over 150 clients have been placed into competitive employment and approximately 55 percent are still working. The median measured intelligence quotient of those clients was 47 with the majority being labeled moderately mentally retarded. Kochany and Keller (1981) have described some of the reasons our clients fail to maintain employment. Major reasons include parental dissatisfaction, transportation breakdowns, client maladaptive behavior, and changes in employer policies. In addition, some clients move away

or simply wish to change jobs after a period of time.

Competitive employment is usually superior to placement in any type of sheltered work environment. It offers the possibility of dramatically improving an individual's lifestyle while resulting in tremendous financial savings for social service agencies. Competitive employment allows persons with moderate or severe handicaps to earn significant wages and receive fringe benefits not available to workers in sheltered settings. The work performed in competitive environments is often more meaningful and challenging to the individual. It also offers the greatest opportunity for long-term job retention and advancement. Competitive jobs are usually not affected by lack of available work or the seasonal variability that often plague sheltered work programs. Perhaps most important is the ability of competitive employment to facilitate the integration of severely handicapped individuals into all facets of community life. Opportunities to travel more independently, utilize retail environments, and develop friendships with nonhandicapped coworkers are greatly enhanced for individuals working in the competitive sector.

Competitive employment also possesses a number of other significant advantages. It can lead to improved perceptions of handicapped workers by parents and policymakers. If parents become convinced that their child can succeed in competitive employment and make a meaningful wage, they may be more likely to take the major risks involved in working out transportation problems, overcoming Supplemental Security Income (SSI) disincentives, and providing support to their son or daughter. Policy makers are more likely to be impressed by vocational training efforts which result in placement in competitive employment. It is unreasonable to expect legislators to continue to provide millions of dollars annually to support programs which result in workers making a few dollars a week. Competitive employment placements are most persuasive in seeking greater funds for

continued job placement efforts. The benefit cost analysis data of Hill and Wehman (1983) strongly suggest that competitive placement programs can actually result in long term savings to taxpayers.

What we need to know, however, is the best way to place and retain moderately and severely handicapped individuals into competitive employment. It is evident that the traditional model of placement with no intensive job site training and follow-along does not work for most moderately and severely handicapped people. Our experiences as well as those of many other investigators referenced earlier document this fact along with the reality of thousands of severely handicapped people not receiving access to rehabilitative services because they are not deemed to be "employable".

In this paper we will present a model which has worked effectively for almost six years. We call it supported work because clients receive staff support in differing degrees of intensity and depending on their unique needs. A detailed description is provided of how supported work can be applied to improving competitive employment opportunities for moderately and severely handicapped people who typically have been unemployed in society. It is important to note that supported employment can refer to other approaches to facilitating paid work for severely handicapped persons. For example, a recent U. S. Dept. of Education, Office of Special Education and Rehabilitative Services initiative (1984) characterizes supported employment as paid work which usually occurs in regular work settings. It may involve competitive employment but might also involve sheltered enclaves, mobile work crews, sheltered industries or other creative approaches to improving employment opportunities. The critical aspect of this U. S. Dept. of Education initiative is the focus upon the historically or chronically unemployed severely handicapped population.

The Supported Work Model

A supported work approach to competitive employment involves highly structured job placement, individualized training, and job retention of clients with moderate and severe handicaps. It is characterized by intensive job-site training in integrated, community-based employment settings. The model is applicable for use with large numbers of individuals who have had limited previous exposure to competitive work environments. It can be successfully implemented by public school and community service programs in both urban and rural areas. The supported work model contains four major program components: 1) a comprehensive approach to job placement; 2) intensive job site training and advocacy; 3) ongoing assessment of client performance; and 4) a systematic approach to long term job retention and follow-up. Table 1 summarizes the principle components and associated characteristics of the supported work model.

Although it is probably not necessary for all handicapped persons, the supported work model is suitable for use with large numbers of handicapped individuals in both public school and community service programs. The model is generally intended as an alternative vocational outcome for persons unable to succeed or gain entrance to traditional public school work-study programs or monitored employment programs operated by rehabilitation facilities. Within public school settings, these individuals are usually served in programs for students labeled moderately mentally retarded or, in a few instances, mildly mentally retarded. Individuals labeled severely mentally retarded or multiply handicapped will also be prime beneficiaries of this approach although we have less data focusing exclusively on this population. Within community service programs, the model may be applicable to persons who are usually labeled by rehabilitation facilities as possessing severe disabilities and who are most frequently served in sheltered workshops or activity centers.

The supported work model possesses several key features that distinquish it from other approaches to job placement. In contrast to less intensive job placement approaches such as the "job club" (Azrin & Besalel, 1980) or selective placement (Rubin & Roessler, 1978), the supported work model relies on a comprehensive approach to job placement that actively deals with the non-work related factors which often stand as barriers to employment i.e. parental concerns. Another key difference between a supported work approach and other approaches is its extensive application of job site training and advocacy procedures. This emphasis allows clients to be placed who do not possess all the necessary work or social skills required for immediate job success. This represents a significant departure from traditional placement approaches that require the client to be "job ready" before placement can occur and alternative approaches that train a client to a specific level of mastery within a training environment prior to a final placement.

Other distinguishing features of the supported work model are its commitment to long term assessment of client performance and delivery of job retention and follow-up services. In sharp contrast to rehabilitation programs that typically provide follow-up services for several months, clients within the supported work model may receive systematically planned job retention and follow-up services for many years after initial placement. Finally, the supported work model is perhaps unique in its identification of a single "job coordinator" who is responsible for all facets of the placement, training, advocacy, assessment, and follow-up process. Rather than utilizing professional staff who specialize in a single aspect of the placement process, reliance upon a job coordinator greatly enhances continuity across all phases of the placement and follow-up process.

In the remainder of this section, we will discuss the four major program

components of the supported work model in greater detail. Each component (placement, job site training and advocacy, ongoing client assessment, and job retention and follow-up) will be defined and illustrations will be provided to demonstrate the applicability of the model to public school and community service programs.

Program Component I: Job Placement

The placement of the client into a job appropriate to his or her abilities is the first major component of the supported work model. A great deal has been written about job placement (e.g. Goodall, Wehman & Cleveland, 1983; Vandergoot & Worrall, 1979). However, we believe that the process of job placement involves more than simply finding a job for a client. Major aspects of the job placement process include:

1. A comprehensive assessment of job requirements and client abilities which results in an appropriate job match;
2. An active approach to handling non-work related factors such as travel, social security, and caretaker support.

The placement process begins by surveying the community labor market to identify the types of jobs that appear likely to have vacancies or high turnover rates and which appear to be within the capacity of potential clients. After specific jobs have been identified, an accurate analysis of work environment requirements must be completed. This process has been variously referred to as ecological analysis (Wehman, 1981), top-down curriculum (Brown, Branston-McClean, Baumgart, Vincent, Falvey, & Shroeder, 1979), or job analysis (Vandergoot & Worrall, 1979). It is critical that adequate detail be provided in terms of job requirements, characteristics of the work environment, and other features which may influence job retention.

Initial client assessment is conducted concurrently with the job development

and analysis activities. A multifaceted approach to client assessment is employed. Information is obtained concerning client adaptive behaviors, parent/caretaker attitudes, transportation possiblities, the client's expressed willingness to work, and other relevant factors. In addition, the assessment will determine the client's current ability to perform some of the vocational skills that may be required in the targeted job areas. An inability to perform a large number of these skills does not preclude a client from placement, since a major strength of the supported work model is its ability to place individuals who do not possess all the work skills needed for immediate job success. However, if the client has not received at least a minimal amount of training through a pre-employment vocational program, the placement and retention process will take a great deal more time and, in the long run, will be more costly to the agency providing the service.

The results of work environment analysis and initial client assessment can be used to determine an appropriate job match. For example, how many of the skills required by a particular job is the client currently able to perform? This information can be used to project the amount of staff time that may be required during the early stages of employment. If a client is being considered for a position on an evening or weekend shift, how will the client get to and from the job? Public transportation may be limited at these times, and alternative transportation arrangements may be required before placement can occur. It is also important to consider whether the client has expressed interest in the type of job under consideration. Our experience has shown that handicapped workers often have strong job interests and preferences. Placements made without regard for a client's expressed interests will frequently fail after a short period of time. These examples illustrate the necessity of matching both job requirements and client characteristics to ensure successful placements.

The second major aspect of the job placement process in the supported work model involves an active approach to handling non-work related factors such as travel, social security, and caretaker support. Within a more traditional placement framework, it is often accepted that the client or caretaker will handle most of these concerns if a job is made available. For persons with moderate or severe mental handicaps, job placement would be impossible or highly unlikely without this type of support. Arranging for alternative forms of transportation to and from work, assisting the client in dealing with changes in social security status, and addressing the natural fears of concerned parents requires the active involvement of a trained professional. In many instances, effective handling of non-work related factors will make the difference between a successful and an unsuccessful placement.

Program Component II: Job Site Training and Advocacy

As noted earlier, on-the-job training is certainly not a new concept. However, in most employment models, a trained professional is not available early in the placement to actively intervene on behalf of the client. Employers are often viewed as solely responsible for training the client. Frequently, no specific training is provided. Instead, brief and infrequent follow-up checks or visits are made for a short time after the initial placement. In short, two major steps in the placement process are omitted, namely, specific skill training and adjustment to the work environment.

Our experience in placement and our communication with others using a supported work model strongly indicate that job site training and advocacy are essential features of the model. Job site training refers to direct instruction provided by a trained professional enabling the client to perform all skills required by the job. Advocacy involves noninstructional intervention on behalf of the client. Both job site training and advocacy are necessary to promote the

client's initial adjustment to the work environment and long-term job retention.

Application of behavioral training strategies to vocational skills in nonsheltered or competitive work environments has received relatively little attention by researchers. Rusch has clearly been the leader in this regard with studies related to acquisition of selected work skills (Schutz, Joste, Rusch, & Lamson, 1980), time-telling (Sowers, Rusch, Connis, & Cummings, 1980), time on-task on the job (Rusch, Connis, & Sowers, 1980), reducing inappropriate self-stimulating behaviors (Rusch, Weithers, Menchetti, & Schutz, 1980), and selected communication training (Karlan & Rusch, 1982). It is apparent to us that the technology of behavioral training needs to be extended into nonsheltered work environments with individuals who heretofore have been considered poor candidates for competitive employment. We have barely begun to scratch the surface in this area. Applications of reinforcement principles, manipulation of antecedent stimulus conditions, and use of coworkers as peer trainers are all areas which require closer investigation.

Advocacy, or noninstructional intervention on behalf of the client, is the other principle feature of this component. In many cases, handicapped workers will need less time spent on training and more time spent on orientation to the new work environment. Advocacy may involve a variety of different activities on the part of the job coordinator, such as: responding to a supervisor's concerns about the implications of the client's disability (likelihood of seizures, use of medication, necessity of adaptive equipment or augmentative communication systems); working out communication problems and assisting the client in developing social relationships with coworkers; or communicating with parents/caretakers about how the job is going. Although the impact of <u>planned advocacy</u> has not been evaluated in the published literature, our previous experiences have taught us that this is an essential aspect of job retention.

The following example serves to illustrate the potential impact of planned advocacy efforts. If a job coordinator notices that a client is having a difficult time locating the employee cafeteria or vending machines, interacting with coworkers during breaks, and failing to return from breaks at the appropriate time, systematic advocacy efforts should be initiated. A supervisor or coworker may be identified who will agree to assist the client during these periods. The job coordinator may provide this "on-site advocate" with information about the client's interests and abilities, allowing the individual to more effectively communicate and interact with the client during breaks. The individual may agree to help the client obtain lunches or snacks in the employee cafeteria and may remind the client when it is time to return to the work station. The job coordinator must make certain to reward the individual for his or her efforts on behalf of the client, monitor the situation to ensure that the client continues to receive assistance as needed, and see that these activities do not place too great a burden on the supervisor or coworkers. Eliciting the aid of a supervisor or coworker is an effective method of fading the involvement of the job coordinator at the work-site and, at the same time, significantly improves the client's chances for long-term job retention.

Program Component III: Ongoing Assessment

A distinctive feature of a supported work approach involves ongoing assessment or monitoring of client performance. Typically, within more traditional job placement approachos, a rehabilitation counselor will place a client and then, at some point in the future, possibly check with employers to determine the adequacy of the client's job performance. When placing clients with severe handicaps, this type of "assessment" is often insufficient, because the worker may be terminated or quit the job before the counselor is even aware that any problem exists.

Ongoing assessment activities include the collection and analysis of subjective information obtained from employers, clients, and parents/caretakers, and the direct measurement of client behavior. Once a placement is made, there is an immediate need to gauge the employer's perceptions of the worker's performance. Initially, supervisors' evaluations should be obtained approximately every two weeks to identify any potential problems or employer dissatisfaction. When a problem is identified, this subjective information should be followed by direct measurement of the client's behavior to determine the scope of the problem and to identify potential intervention strategies. After the job coordinator has intervened to correct any problems in client performance, the results of the intervention program should be validated by again asking the supervisor to evaluate the worker. This process will ensure that improvement in the client's work performance, documented through direct measurement of behavior, is adequate from the employer's point of view.

In the same manner, the client and his or her parents/caretakers should be assessed on a regular basis to determine their satisfaction with the job placement. Identifying any concerns may allow the job coordinator to intervene before the client leaves the job. Although quantifiable data is the most desirable, in some instances verbal feedback to a job coordinator may be sufficient. In all cases, the amount of assessment data collected is clearly related to variables such as the ability level of the client, the amount of staff available for data collection, and, above all, the specific need for data to evaluate a certain problem.

Program Component IV: Job Retention and Follow-up

Follow-up, the fourth component of the model, is an activity or service consistently referred to in the rehabilitation system. However, the amount and nature of follow-up services actually provided to clients remain unclear. In a

recent analysis of the Projects With Industry Program (Reismer, Haywood, & Hastings, 1983), follow-up was found to be a frequent activity of those projects. Yet, the type and quality of follow-up services and their impact on job retention were not assessed.

Systematic follow-up services are critical for a number of reasons. The client may lose enthusiasm and display a reduction in productivity after the initial excitement about the new job has subsided. A change in work schedule may require the job coordinator to retrain the client on his or her new bus schedule. Modifications in work assignment or a new supervisor may necessitate additional training on new job tasks. Similarly, a change in the home situation may adversely affect job performance and require follow-up services which involve the client's parents/caretakers. Maintaining contact with the client, employer, and parents after the initial training period will allow the job coordinator to foresee potential problems and prevent their occurrence, rather than delaying intervention until the problem has escalated into a crisis.

A supported work approach to competitive employment views follow-up services as long-term activities that are provided over a period of years. As indicated above, changes in supervisor, work assignment, or home situation may endanger a client's job retention years after initial placement. Traditional placement approaches that terminate follow-up services within a period of months appear unable to meet the job retention needs of severely handicapped clients, who are often adversely affected by changes in their home or work environments. Hill, Cleveland, Pendleton, and Wehman (1982) list regular on-site visits to employers, phone calls, review of supervisor evaluations, client progress reports, and parent evaluations as effective follow-up strategies which promote job retention. Ultimately, job retention and follow-up may be the most crucial component of the supported work model, since moderately and severely handicapped workers are often

immediately at risk of losing their jobs in competitive environments unless some type of retention plan is devised. Although this strategy has been viewed by skeptics as being too expensive, the benefit cost analysis of Hill and Wehman (1983) seems to refute this notion.

Implications for the Supported Work Model in Different Service Delivery Settings

Although the previous section provides important information regarding the supported work model, the model is of little value if it cannot be applied by the principle service delivery systems serving moderately and severely handicapped persons. These service delivery settings include both public schools and community service programs such as sheltered workshops and adult day programs. The section which follows specifically addresses the problems encountered in these settings and recommends changes in current policies that may help to solve these problems.

Typical Problems Encountered in Service Delivery Settings

Public schools and community service programs each present their own unique set of problems for implementation of the supported work model. For example, relatively few university training programs equip special education or vocational education teachers with the specific competencies needed to train and place students into competitive employment, work with employers, and develop linkages with adult service systems. These difficulties have led to a minimal amount of job placement by school system personnel of handicapped students into jobs which pay unsubsidized wages.

Community service programs also possess many inherent problems that inhibit attempts to implement the supported work model. Funding limitations make it extremely difficult for these programs to recruit and retain qualified staff. Significant staff turnover is not uncommon. As the Bellamy, Sheenan, Horner, and

Boles (1980) study noted, relatively few of the adult day programs surveyed focus extensively on vocational training and/or placement. Often community service programs are heavily influenced by volunteer groups or associations which may seek to protect handicapped adults and maintain nonvocational, developmentally-based programs.

The obstacles facing service providers attempting to implement the supported work model in public schools and community service programs are numerous and complex. Rather than dwell on these obstacles, however, it will be much more constructive to focus our attention upon ways to overcome these problems. The policy recommendations listed below begin to address some of the ways in which the supported work model can be integrated into existing service systems.

Strategies and Policies for Overcoming Public School Problems

Based upon the success of the supported work model with moderately and severely handicapped adults (Wehman, et al., 1984) it appears that this approach to job placment must be utilized fully for students who are still in public school. Such an undertaking will require extensive changes in the curriculum used with severely handicapped students, the organization of secondary programs, and the content and nature of university training programs (Brown, Shiraga, Ford, VanDeventer, Nisbet, Loomis, & Sweet, in press). We have outlined below several specific policy changes which must occur to allow the application of the supported work model to the training and placement of severely handicapped students in secondary programs.

1. Public school special education programs must make a clear philosophical commitment to place and maintain students with moderate and severe handicaps into competitive employment. Current vocational training efforts frequently emphasize the acquisition of "prevocational" skills, evaluation activities, or training on isolated vocational tasks that bear little similarity to the skills

needed for success in competitive settings. Relatively little attention is often paid to the placement of students in jobs which pay unsubsidized wages. Follow along of the students' progress is not provided. Policies must be developed at both the state and federal level that will facilitate the implementation of the supported work model. New roles must be created for vocational placement specialists to function as job placement coordinators within secondary programs for severely handicapped students. Local school systems should be encouraged to develop systematic transition programs as well as support part-time employment for severely handicapped students (Clarke, Gruenwald, Abramovitz, & Bellamy, 1980). Transition programs will enable systems to coordinate their job placement efforts with those of other agencies in their community. State education agencies can play a leadership role in developing and conducting follow-up surveys that will serve as a measure of program effectiveness.

2. State and federal agencies must carefully monitor service delivery models, curricula, and instructional practices to facilitate implementation of all components of the supported work model. Students confined to segregated educational facilities cannot acquire all the social and interpersonal skills required for success in competitive employment settings. Monitoring activities must guarantee students access to integrated educational environments. In addition, significant changes must occur in curriculum development activities for severely handicapped students at the intermediate as well as secondary levels. No longer can special educators be satisfied to move students through non-functional developmental sequences. Functional curricula derived through ecological inventory approaches (Wilcox & Bellamy, 1982) must be incorporated through each student's intermediate and secondary programs (Wehman, 1983). The supported work model also implies a reliance upon a community-based approach to instruction. Strategies must be devised to overcome the transportation problems, liability

concerns, and administrative constraints which currently hinder efforts at community-based programming (Wehman & Hill, 1982).

3. Special education personnel preparation funds should be used to stimulate the development of university training programs that prepare specialists in the vocational training and job placement of students with moderate and severe handicaps.

Very few teachers are currently prepared at either the undergraduate or graduate levels to perform the job development, job analysis, job placement, job-site training, and follow-up activities required by the supported work model. New training programs must produce vocational placement specialists who possess the ability to work effectively with employers and personnel managers, coordinate their efforts with community service agencies, and provide quality on-site training and follow-up services.

Strategies and Policies for Overcoming Problems in Community Services

Several major policy changes and subsequent strategies need to be considered if community service programs such as sheltered workshops and adult day programs are to substantially improve their rate of job placement and retention. The suggestions which are made here are derived from policy reports, personal observations, and frequent interactions with community service personnel in many states.

1. Public policy commitments and clear financial inducements must be established to encourage placement of people with severe handicaps into competitive employment. Most community service programs do not have a specific mission which emphasizes the competitive employment outcomes and service provisions which purportedly lead to paid employment. Policies should be generated at both the local and State levels that prioritize client employment as a critical aspect of any program. The policies should include a clear financial inducement for

competitive employment placement. As noted earlier, community service personnel receive no positive financial consequence for job placement and retention. For example, substantial cash installment payments for placement and, eight months to 10 months later, retention, would put contingencies on job placement and also job maintenance. This form of monetary contingency would greatly facilitate the use of the supported work model or a very similar system. In addition, a much longer follow-up period of 8-10 months must be used rather than the normal 60 days which many rehabilitation facilities follow. Workers with moderate and severe handicaps require much longer periods of work adjustment.

2. Rehabilitation agency officials who designate programs as vocational training and placement vendors for services should encourage or stimulate use of a supported work model. In order for sheltered workshops or other community service programs to receive rehabilitation funds for client services, they must be approved as a vendor (Revell, Wehman, & Arnold, in press). During this approval process, officials should encourage the payment of monies for application of a supported work model of job placement. Similarly, rehabilitation counselors and other referring sources who are paying for workshop services must demand more in the way of competitive employment placement. When counselors become knowledgeable about the work potential of clients of severe handicaps, they may be more motivated to require specific supported work services from community service programs.

3. More funds need to be directed to sheltered workshops and other community service programs to develop pre-employment programs closely linked to jobs in competitive employment. A widely held assumption has been that learning general work habits and acquiring bench work skills will prepare individuals to perform competitive employment tasks in regular work settings. Our placement experiences with severely disabled clients do not support this notion. Most of these

individuals need training in specific vocational skills and opportunities to learn how to interact with nonhandicapped people in community settings. The development of more work crews or sheltered enclaves in the community, as well as in-house training programs, would broaden the continuum of locally available vocational cptions and greatly facilitate entry into unsubsidized employment. Developmental Disabilities monies, the Joint Training Partnership Act, and local mental retardation funds may all be used to support pre-employment programs. Recently, the Social Security Act (Title XIX) Medicaid Waiver has been used in some states to successfully implement vocational training activities.

4. Personnel in community service programs, including sheltered workshop and other rehabilitation staff, must receive extensive training in job placement, job site behavioral training, and follow-up strategies. Federal policymakers need to consider expending developmental disabilities, special education, and rehabilitation training funds to train community service providers. Specifically, a critical need exists for adult day program supervisors, instructors, residential counselors, case managers, respite care providers, and administrative staff who understand the importance of employment and the potential of the supported work model. In addition, significant changes should be made in university rehabilitation programs. Preservice programs, in particular, do not sufficiently prepare personnel to effectively implement the supported work model. Much more attention must be given to active job placement, training as opposed to counseling techniques, and follow-up strategies. As clients with more severe handicaps are referred for services, counseling skills will wane in importance and behavioral training skills will become imperative.

5. Demonstration programs need to be established for innovative community service day programs which focus on employment. In recent years substantial numbers of special education and rehabilitation demonstration projects have

validated the usefulness of the supported work model. However, few demonstration activities have been implemented in community mental retardation programs. Many more programs are needed that incorporate the most effective methods currently available for training and placing individuals with severe handicaps into jobs.

Concluding Remarks

There is a very limited likelihood that persons with moderate and severe handicaps will earn meaningful wages in real work without some approach like the one described in this paper. It is apparent to us that the type of structure and long term commitment which is described in the supported work approach is necessary to facilitate greater opportunity for competitive employment. This paper has addressed the employment needs of the severely handicapped persons and the high rate of unemployment among disabled people in the United States today. We have recommended an approach which has worked with many moderately mentally retarded persons in the past (Wehman et al, 1982; 1984) and which requires consideration for greater accomodation into local service delivery systems. To this end, numerous public policy recommendations were made, both for public schools and also community service adult day programs and sheltered workshops. Only when more attention is paid to significantly modifying these service delivery systems to reflect employment-oriented outcomes will moderately and severely handicapped persons gain entry to the nation's labor force in large numbers.

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SUPPORTED WORK MODEL OF COMPETITIVE EMPLOYMENT FOR PERSONS WITH MENTAL RETARDATION: IMPLICATIONS FOR REHABILITATIVE SERVICES

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Abstract

Numerous applications of the supported work model of employment services demonstrate the ability of severely disabled mentally retarded persons to work competitively. Based on these demonstration efforts, this article describes how a supported work program can serve as the central job-related service component to placing and retaining a variety of persons with severe disabilities in competitive employment. The implications of these demonstration efforts on state vocational rehabilitation agency case service expenditures, staffing, and programming efforts are also discussed. Funding and programming options for state agencies to use in initiating a more intense, client oriented employment service approach are reviewed. State vocational rehabilitation agencies must now take the lead in integrating the supported work model into community services if the federal-state vocational rehabilitation program is to fulfill its responsibility for meeting the employment needs of persons with severe handicaps.

Supported Work Model of Competitive Employment for Persons With Mental Retardation: Implications for Rehabilitative Services

There is increasing evidence that severely disabled mentally retarded persons can work competitively in nonsheltered employment provided that the appropriate support systems are in place (Brickey, Browning, & Campbell, 1982; Brickey & Campbell, 1981; Kraus & MacEachron, 1982; Revell, Arnold, Taylor, & Saitz-Blotner, 1982; Wehman, Hill, Goodall, Cleveland, Brooke, & Pentecost, 1982; Sowers, Thompson, & Connis, 1979). However, the placement options available for severely disabled mentally retarded clients have been usually limited to (a) sheltered work hop placement, (b) competitive placement without the time for job site training and follow-up, and (c) refusal for services due to a perceived limited potential for gainful employment.

At one time it was considered highly unlikely that individuals diagnosed and classified as moderately retarded or severely retarded could work competitively. However, with a supported work model it is evident that many of these individuals can gain employment and retain employment (Wehman & Kregel, 1984). Successful demonstrations of how to implement a supported work model may provide a fourth option for retarded clients; namely, placement into competitive employment with professional staff support.

A supported work model provides for direct training of the client at the job site. Daily training and advocacy is given by a professional staff person until the client successfully demonstrates independence. At that time, staff begin to systematically reduce their time at the job site. The components and cost effectiveness of a supported work model have been described earlier (Hill & Wehman, 1983; Revell & Arnold, 1984; Wehman, 1981; Wehman & Kregel, 1984). These components include 1) job placement, 2) job-site training, 3) on-going assessment and 4) job retention. Table 1 provides a checklist of the types of activities

which correspond to this model. Essentially, in a supported work arrangement,

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assistance is provided by staff to help severely disabled clients not only gain employment but learn the skills at the job site, adjust to the work environment and ultimately retain the job. Employment is not wage subsidized, that is, employers immediately hire the client with their own funds thus being able to access the Targeted Job Tax Credit program. This approach is a much more individualized approach to job placement and retention. Counselors may purchase these services from rehabilitation facilities and other day programs which offer supported work services. Supported work may also involve placement into more sheltered settings like work stations in industry or sheltered enclaves; however, this report focuses exclusively on competitive employment.

The purpose of this article is to provide an overview of how supported work can fit into the rehabilitation process of service delivery for clients with mental retardation. It is time to move beyond isolated demonstrations and integrate this highly successful model into rehabilitation services in all parts of the country.

Rationale for the Supported Work Model of Employment Services

The supported work model of employment services emphasizes placement and maintenance into competitive employment. Vocational rehabilitation counselors serving severely disabled mentally retarded individuals have traditionally depended heavily on the services offered by sheltered workshops. Workshops can provide services needed by persons with severe disabilities, and nationally many workshops are moving toward developing industrial work environments. However, the training and employment services offered by many sheltered workshops are significantly limited. These limitations, as documented in a number of studies and reports (U.

S. Department of Labor, 1979; U. S. Commission on Civil Rights, 1983; Perlman, 1978) include:

1. The vast majority of mentally retarded persons trained in sheltered workshops do not move to competitive level jobs.
2. The average earnings generated through sheltered work programs leave participants in these programs financially dependent on government, community, and family income supplements; sheltered work programs also offer minimal benefits, usually restricted to vacation and sick leave.
3. Participation in a sheltered work program usually requires a reliance on public subsidy to the facility for long-term placements. As a result, the participant is dependent on the community for both subsidized work and subsidized income, as well as numerous public relief benefits. This dependence on the community creates the perception that the severely disabled mentally retarded individual is minimally productive.

Many workshop programs depend heavily on labor intensive bench work contracts to generate income and work opportunities. The work behaviors and trade-related skills learned from, for example, assembly and disassembly activities performed in a sedentary work environment do not transfer well to industrial jobs identified as being within the potential abilities of mentally retarded persons currently in workshops. Therefore, traditional workshop programming provided in a nonindustrial setting neither prepares its clientele for competitive employment by offering industrially related experiences nor provides an opportunity for persons remaining in the sheltered work environment to move beyond substantial public subsidy.

Vocational rehabilitation counselors face significant difficulities when attempting to place severely disabled mentally retarded persons in employment

outside of sheltered workshops without access to a supported work model. The rationale for the supported work model recognizes that the vocational rehabilitation counselor is primarily, in reality, a coordinator of services. A client who requires 40 to 80 hours of one-to-one job site follow-up after placement presents the counselor with a dilemma that is usually resolved by considering the client too severely handicapped for competitive employment. Hence case closure or placement into a workshop results.

Counselors who attempt to provide services using the state agency vocational rehabilitation program model are very familiar with the terms "not feasible for employment services." Some disabled persons do have vocational handicaps related specifically to their disability that are too severe and limiting to allow for return or movement into competitive employment. However, the success of applications of the supported work model of employment for mentally retarded persons clearly proves that many persons, earlier closed unsuccessfully or refused services because of the severity of their handicap, have successfully retained competitive level employment (Wehman, Hill, Goodall, Cleveland, Brooke, & Pentecost, 1982; Wehman, M. Hill, J. Hill, Brooke, Ponder & Pentecost, 1984). To these individuals, their lack of feasibility for services was a product of the limitations of the service options made available to them by the vocational rehabilitation program, and <u>not</u> solely a function of their own handicaps. By offering severely disabled mentally retarded persons intensive evaluation, orientation, training, and follow-up services at industrially-based job sites, many of these individuals can become and remain productive, financially independent, and fully integrated in their community.

<u>The Supported Work Model in the Community Vocational Rehabilitation Process</u>

A supported work program does not supplant existing vocational service resources; it has a role as a complementary service within the full vocational

process. For the severely disabled mentally retarded person, a supported work program can serve as a means from which the adjustment, training, and long-term case management areas of the process can revolve. The following is a description of how a supported work program fits into the community rehabilitation process.

Severely disabled mentally retarded persons are referred to vocational rehabilitation agencies typically by representatives of special education programs, community services, work activity or sheltered workshop programs, and families or friends. Prior to job placement, retarded individuals can recieve a variety of services including diagnostic and vocational evaluation, counseling, work adjustment, and vocational training. The difficulties inherent in effectively providing these preplacement services without access to a supported work program are reflected in high unemployment rates and poor client wages, unfortunately (U. S. Commission on Civil Rights, 1983). Severely handicapped mentally retarded persons have difficulties characteristic of their mental limitations in transferring and generalizing skills from familiar to nonfamiliar settings. Preparatory vocational services provided in isolation of the specific job and setting in which the trainee will work appear to have limited practical value (Rusch & Mithaug, 1980). The supported work program can assist those involved in the vocational preparation of retarded persons to:

1. Evaluate vocational needs based on work-related factors such as mobility, interpersonal skills, direction following, flexibility, and ability to self-monitor.
2. Identify the job classifications available to retarded individuals in their specific community.
3. Identify the employers and work settings offering job opportunities for mentally retarded persons.
4. Develop prescriptive training plans specific to the job class, setting, and potential employer.

By making this job-specific information available, staff working within supported work programs can offer an alternative to laboratory-based vocational evaluations and elongated, undefined sheltered workshop adjustment training. Also, awareness of this information will, in time, change the programmatic focus of those involved in preplacement training to a more industrially-based orientation.

Job placement and follow-up must be the primary service of vocational rehabilitation programming, and competitive level employment must be the primary goal. A supported work program is employer based, it is intense in its relationship with clients, and it provides a means for the retention of employment. It also offers those involved in the long-term case management of mentally retarded persons a resource for crisis intervention when job threatening situations occur after completion of the formal six-month follow-up. Because of its role in the preparation, placement, and maintenance of retarded individuals, a supported work program should be a central job related service component of the rehabilitation process.

The Supported Work Model: Is It Effective?

In recent years, the number of programs utilizing a supported work model of job placement has increased gradually. This model is best utilized in programs where staff are not only concerned about placement, but equally about job retention and follow-up services. The following is a brief description of selected programs which are employing a system of supported work.

In Virginia at least two successful programs have stood the test of time and also replication. At Virginia Commonwealth University, the Rehabilitation Research and Training Center sponsors a program which, over the past five years, has made upwards of 150 placements with better than 80 clients still working (Wehman, et al, 1982). The median measured intelligence of these retarded individuals is 48, with many having been rejected from local rehabilitative services initially due to their

expected potential. This program is based in greater Richmond as well as Norfolk and Virginia Beach, with most jobs in the hotel and restaurant industry. Over $700,000 has been earned by these clients cumulatively.

In a similar fashion, the Virginia Department of Rehabilitative Services sponsors Project Transition, a placement and retention project which is based in Northern Virginia (Revell & Arnold, 1984). This project has focused more on a broad range of mentally retarded persons, dually diagnosed mentally retarded and visually impaired individuals, and people receiving mental health services. The project started in 1979 and as of November, 1983, 148 clients have been placed in employment with 78 still working. Average wage for project clients is approximately $4.25 per hour, and many clients are getting full fringe benefits.

In the state of Vermont, Vogelsburg and Williams (1983) have implemented a project in Burlington and several other more rural areas which has led to over 58 placements of mildly and moderately retarded people over the past three years. In this program, which is expanding across the state, there is significant staff training at job sites and case manager follow-up.

At the University of Washington, there is also an excellent food service training program which has led to a number of placements over the years (Sowers, Connis, & Thompson, 1979). The encouraging aspect of this supported work program is that the State Development Disabilities Unit is promoting it across the state of Washington in many smaller local programs (O'Neill, 1983).

Brickey and his associates in Ohio have been active in using a modified version of the supported work model with sheltered workshop employees (Brickey, Browning, & Campbell, 1982). A most recent evaluation indicated that 53 mildly and moderately retarded individuals had been placed into a variety of entry level food service and custodial positions. Rusch, at the University of Illinois, also has provided leadership in this area with placements coming from their food service

training program (Rusch & Mithaug, 1980). Kraus & MacEachron (1982), in similar fashion, employed the supported work model in the Transition Employment Program in Boston, as has Brown and his colleagues with severely handicapped students in the Madison, Wisconsin public school system (Brown, Nisbet, Ford, Sweet, Shiraga, & Gruenwald, 1982).

It should be apparent from this descriptive overview that successful programs are emerging. However, although programs utilizing a supported work model are moving out of the demonstration phase, there still is not the required translation into community service practice. These demonstration projects suggest that (a) the supported work model can be effective for placement and job retention, but (b) these demonstrations are not occurring in most community training programs serving the mentally retarded, such as adult day centers and sheltered facilities. Also, it is evident that state vocational rehabilitation agencies have not widely adopted the supported work model despite the successful applications of the model to employment services for severely handicapped persons. Hence the implications of this model must be interpreted cautiously.

Implications of the Supported Work Model for the Vocational Rehabilitation System

Applications of the supported work model have successfully enabled disabled persons previously unemployable in competitive settings to retain full employment. The implications of the successful applications of the supported work model for the vocational rehabilitation system are numerous.

Sequence of Services

The federal vocational rehabilitation process emphasizes a sequence of services usually consisting of vocational evaluation/vocational training/job placement. Before job placement is considered, clients are required to be trained and job ready. The supported work model to a large extent reverses the "train-place" methodology of traditional vocational rehabilitation programming and

takes a "place-train" approach to employment services. By placing a professional staff person at the job site with the client, training specific to the job and individualized to the client takes place after placement. Given the predominant expenditure of case service dollars on formal work adjustment and skill training programs for clients, vocational rehabilitation administrators should consider the cost-benefit and the job retention issues involved in shortening formal preplacement training and redirecting case service dollars into staffing for supported work programs. Hence more funds will obviously need to be expended for the inservice training of (a) rehabilitation counselors to use this model and (b) facility and work adjustment staff to offer this service as vendors.

The supported work model focuses the vocational process on a job-client match. It attempts to identify early in the client's employment preparation the specific job and employer most appropriate for the individual. It also identifies the work and trade skills required by the job and the employer. The rehabilitation counselor responsible for coordinating the client's movement through the vocational process, by having access to job-client match information, can target requests for adjustment, training, and other services specifically to the identified job requirements.

Continuum of Employment Services

The supported work model consists of numerous discrete job placement and follow-up services. These services may include client assessment and job analysis; use of industrially-based job orientation sites; job site supervision and employer/coworker education; and family counseling and client advocacy. These discrete services combine into a placement and follow-up methodology which allows many severely disabled mentally retarded persons to work competitively. It is a methodology substantially more client centered than the traditional job referral and irregular follow-up approach still used by many counselors responsible for a

high volure of clients. If state vocational rehabilitation agencies are to become effective providers of services to mentally retarded persons with severe disabilities, agency direct service staff, through inservice training and through program restructuring, must become aware of and have access to these employment service methodologies.

Application to an Expanded Severely Disabled Population

Current applications of the supported work model, originally targeted toward retarded individuals, are now expanding to serve persons with other mental, physical, or multiple disabling conditions. Persons with severe physical disabilities benefit greatly from industrially-based assessments, job analysis with possible resulting job modifications, and employer/coworker education. Persons with emotionally-related disabilities benefit from extended job site follow-up and client advocacy. It is clear that application of the supported work model is not limited to mentally retarded persons; it can be selectively applied to employment services for persons with a wide range of severe disabilities. Given the clear mandate for the federal-state vocational rehabilitation program to make services available which maximize the employment potential of persons with severe disabilities, the need for integration of the supported work model into the vocational rehabilitation process is clear.

Funding Options for the Supported Work Model

Vocational rehabilitation administrators attempting to incorporate the supported work model intc their service system are faced with difficult issues. Zero growth budgets; substantial cutbacks in alternative funding sources; hiring freezes and employee layoffs: there are all current trends in public programming, including vocational rehabilitation, which temper significantly the options available to administrators. However, current applications of the supported work model point to funding and personnel options which potentially provide a means for

supporting adoption of alternative service methodologies.

Federal/State Vocational Rehabilitation Funding.

Counselors serving severely disabled mentally retarded individuals are dependent at present on purchase-of-service arrangements with community adjustment and training service vendors. Frequently, a costly work adjustment program for a client results in placement in either a subsidized sheltered employment slot or on a waiting list for sheltered employment. Monies directed currently toward purchase-of-service for noncompetitively oriented programs could be redirected toward staffing of competitively oriented service methodologies. By placing limits, defined by objective progress reports and movement toward specified behavioral targets, on purchased adjustment services, the average client enrollment period in preplacement services could be shortened and dollars made available for alternative services.

Fee-for-Service Arrangements.

The use of industrial enclaves and an orientation to preparing clients for competitive employment are growing trends in progressive sheltered workshop programming. Workshops which adopt an industrial orientation can become a provider of supported work job placement and follow-up services. State vocational rehabilitation agencies should encourage community service vendors to provide supported work services and incorporated the cost of the service into a fee-for-service agreement.

The Job Training Partnership Act.

Programs utilizing variations of the supported work model are, as of November, 1983, operating in four of the fourteen Service Delivery Authorities in Virginia. These programs provide employment services to handicapped persons and are funded

wholly or in part through funds made available by the Job Training Partnership Act (JTPA). These programs are supervised by the state vocational rehabilitation agency and provide intensive job site training and extended follow-up. JTPA funds are primarily used to support costs for training and employment staff and also client related expenses such as assessment, wage subsidies for on-the-job training, and transportation. The authority given to the local community in the JTPA program to determine needed services allows a great deal of flexibility in devising a supported work program which complements available services. The JTPA program design also encourages joint programming among the state vocational rehabilitation program, community mental retardation services, other public programs providing for services needed by persons with disabilities, and private vendors of services such as sheltered workshops. The JTPA program provides an excellent opportunity to expand the availablity of a service methodology, such as the supported work model, which emphasizes retention of competitive manpower in industry.

Projects With Industry

The supported work model utilizes industrially-based assessment and orientation services, adjustment and skill training at the job site, and intense follow-up after employment. These services are consistent with the federal Project With Industry (PWI) model. Applications of the supported work model, on a formal or informal basis, utilize business advisory groups, a primary feature of PWI programs. As state vocational rehabilitation agencies prepare for possible direct participation in the federal Projects With Industry program, the supported work model provides a service option appropriate to PWI funding.

Cooperative Programming.

Project Transition in Virginia is supported by a combination of JTPA, state and local mental health and mental retardation, and federal-state vocational rehabilitation funds. The project is administered by a local Community Services

Board program and supervised by the state vocational rehabilitation agency. Project staff, although not employees of the vocational rehabilitation agency, are housed within a local vocational rehabilitation office and work in close cooperation with state agency evaluators and counselors. The interagency nature of Project Transition has established a positive service and follow-up environment for project clientele; it has also made available a service which no one agency on its own has the resources to provide. This project is a good example of how multiple sources of revenue can be derived to underwrite structured employment programs.

These various funding options for the supported work model are not mutually exclusive. State vocational rehabilitation agencies having difficulty in effectively providing for the employment service needs of severely handicapped persons must review:

1. Current case service expenditure patterns and the impact on competitive placements which result from these expenditures.
2. Current agency staffing patterns, particularly among full service counselors who have traditionally depended on a now shrinking case service budget to serve clients and who spend a small percentage of their time on job placement and job retention services.
3. Supplementary funding available through JTPA, PWI, and other federal, state, and private resources which are oriented specifically to employment services for handicapped persons.
4. The opportunity for cooperative programming, both with other public agencies and also with the private sector.

Redirection of existing resources and utilization of supplementary funding and programming options present vocational rehabilitation administrators with the means to implement applications of the supported work model.

Summary

There is little doubt that if mentally retarded and other severely handicapped persons are to have reduced dependence on Social Security disability income and other forms of government transfer payments, then competitive employment placements are essential. The recently funded Rehabilitation Research and Training Center at Virginia Commonwealth University is seriously investigating numerous research issues related to the competitive employment of mentally retarded individuals. A special focus of this Center, which is under the direction of the second author, will be the supported-work model (i.e., how it works, its cost effectiveness, and optimal ways to train staff in the model).

The federal/state vocational rehabilitation agency must effectively and efficiently assist mentally retarded and other persons with severe disabilities to retain competitive employment if it is to retain or possibly reestablish its credibility as a viable employment service program. Project applications of the supported work model have demonstrated its effectiveness in assisting severely handicapped persons to retain competitive employment. State vocational rehabilitation agencies both as a provider and a user of vocational rehabilitation services and are the public program responsible for the employment of persons with disabilities. These agencies must take the lead in integrating the supported work model into their own service programs and into other viable community resources, including sheltered workshops.

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Table 1

Checklist of Activities for the Supported Work Model of Competitive Employment

What is involved in helping the client get a job?

- structuring efforts to find a job for client and matching client strengths to job needs
- communicating with employers on behalf of client
- planning transportation and/or travel training
- emphasizing parents involvement in identifying appropriate job for client
- communicating with social security representatives

What is involved in teaching the client a job?

- providing behavioral skill training aimed at improving client work performance
- providing necessary social skill training at job site
- working with employers/coworkers in helping client
- helping client and coworkers adjust to each other

What is involved in monitoring the client's job progress?

- getting regular written feedback from employer on client progress
- utilizing behavioral data related to client work speed, proficiency, need for staff assistance, etc.
- implementing periodic client and/or parent satisfaction questionnaires

What is involved in helping the client keep a job?

- implementing planned efforts to reduce staff intervention at job site
- providing follow-up to employer through phone calls and/or visits to job site as needed
- communicating to employer if and when staff accessibility is needed
- helping client relocate or find new job if necessary

DEMOGRAPHIC ANALYSES RELATED TO SUCCESSFUL JOB RETENTION FOR COMPETITIVELY EMPLOYED PERSONS WHO ARE MENTALLY RETARDED

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Abstract

Detailed client demographics are given from a longitudinal examination of a special job placement program (the supported work model) for mentally retarded persons over a six year study period. This investigation also examines the demographic differences in individuals who are maintained in competitive employment over six months versus those individuals who did not achieve a six month work history. Chi square analyses showed significant differences in over-six months and under-six months retention rates on the following variables: reading skill development (higher retention rates found for persons with more limited reading); differences in types of previous adult programs attended (higher rates for persons from community work crew-oriented programs); differences in guardian identities (higher rates for those who did not have a natural parent listed as a primary guardian); and sex differences which approached significant levels (higher retention rates for males). The implications of the findings on the improvement of vocational habilitation efforts are discussed.

Demographic Analyses Related To Successful Vocational Outcomes For Competitively Employed Persons Who Are Mentally Retarded

Vocational programs which focus on competitive employment outcomes for individuals with mental retardation have been increasing in recent years (Rusch & Mithaug, 1980; Rusch, in press; Wehman, 1981; Wehman, Hill, Hill, in preparation). As the federal government has stepped up its interest in improving employment opportunities for persons with disabilities (Will, 1984; Elder, 1984), it is clear that much more needs to be understood about the selected demographic characteristics of disabled people as they relate to competitive employment outcomes. This type of information is critical for enhancing appropriate placements, counseling parents, designing training strategies, evaluating programs and formulating public policy.

There are, unfortunately, few published accounts of large groups of mentally retarded persons working over a long time periods. Edgerton (1983), of course, in his classic study has tracked one group of persons with mental retardation and examined vocational adjustment along with many other aspects of these persons lives. However, Edgerton does not provide the on-going and indepth assessments of employment and demographic data which would be helpful to those responsible for formulating national and state employment policies for disabled persons, as well as for those who are direct service providers. The report by Sowers, Connis, and Thompson (1979) and our earlier papers (Wehman, & Hill, M., 1981; Wehman, Hill, M., Goodall, Cleveland, Brooke, & Pentecost, 1982) do present descriptive analyses of mentally retarded persons who are competitively employed but no statistical or cross tabulation analyses were utilized. In addition, the Sowers et. al. paper was limited to a small number of food service employees. Other published reports have focused more on small episodic efforts (Brickey & Campbell, 1981; Rusch & Menchetti, 1981; Wehman, Hill, J., & Koehler, 1979 a;b) which,

while helpful, do not provide the comprehensive data necessary for policy formulation. In order to evaluate the perspective of employment for mentally retarded persons, longitudinal data from a larger study pool is needed.

One source of such data might be state rehabilitation agencies. However, a major limitation of the large state rehabilitation agency annual reports which are available is that no specific placement model has usually been practiced. Some counselors emphasize an on-the-job training approach, others provide group or individual counseling, and others believe in only placing those disabled persons who can significantly help themselves. There is no literature that we are familiar with which focuses directly on one placement model and its record of success over time with a given pool of disabled persons. Another drawback of state rehabilitation reports is that the data have not been collected as carefully as is necessary in a well controlled research endeavor.

This need to more systematically analyze mentally retarded workers in competitive employment prompted the undertaking of this investigation by analyzing the demographic characteristics of the mentally retarded persons who have been placed through our program since 1978 and to relate these characteristics to high and low retention rates. Since 1978 we have practiced exclusively a supported work approach to competitive employment (Revell, Wehman, & Arnold, in press; Wehman, Hill, & Koehler, 1979 a,b; Wehman & Kregel, 1985). This approach is characterized by the use of a professional staff person at the job site who initially makes a job placement which is then followed by intensive 1:1 training provided until the individual becomes more independent. At that point, a gradual fading of staff assistance is implemented. Additional related services are provided including transportation training, parent/guardian community living skill training and, in general, intervention is provided for any particular need which threatens continued employment.

To critically evaluate the effectiveness of this intervention, clear measures of program and client success must be defined. This investigation will examine client and family demographic characteristics in relation to a successful vocational outcome defined as retention in employment six months after the date of first placement. This dependent variable is selected based upon comparative data showing that the average length of work histories for entry level food service and janitorial jobs by nonhandicapped persons is less than six months (Annual Job Survey, 1984). Therefore, the development of a six month work history for these participants is viewed as a first-step indicator of success toward continued employment in the community. Specifically, our demographic data were analyzed using statistical techniques in order to identify those characteristics of retarded workers that were associated with the successful outcome of over six months retention in employment. It was hypothesized that a supported work model is equally as effective with persons of varying demographic characteristics and backgounds; therefore, we assumed the null hypothesis would be accepted as a result of this analysis. In that this investigation does not include a control or comparison group, it is not possible to report a cause and effect relationship between the training program and the outcome. However, since most clients had been considered by related service providers as not ready for competitive employment, had never worked before, and since referral sources were instructed to refer only those individuals who could not work without intensive, long-term job site training, confidence was increased that few participants would have reached this state of success without supported work services.

Method

The Program

Over the last six years, state and federal grants have supported the direct placement and training of mentally retarded persons in competitive jobs in several

predominantly urban locations in Virginia. Through a special job placement program, data reported in this investigation are based upon 155 clients placed in jobs receiving at least minimum wage or better from their respective employers from the first day of placement. All clients have received direct job site training, advocacy, and follow-up services by behaviorally based, individual instruction (Moon, Goodall, Barcus, & Brooke, in preparation).

Settings

The job settings selected for placement activities have been limited only by availability of jobs and the willingness of employers. Job trainers were free to go to any company within the community as long as minimum wage was available. Over 125 companies have hired clients. These have involved eight different categories of companies. These are food services, janitorial, industrial, non-profit services, commercial businesses, education, health care, and lodging. Company affiliations have included private profit, private non-profit, local government, state government and federal government. Figure 1 shows a graphic representation of the percent of placements made in each company and affiliation

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type. The highest percentage of placements have been accomplished in food service companies and the great majority have been in private, for-profit companies.

Participants

All 155 participants were referred to the program from a community agency, school, counselor, friend or parent. Generally, only clients who had a measured intelligence score below 70 and who exhibited a willingness to work were selected as potential job candidates. Several clients had measured I.Q.'s in the 70's; however, all also exhibited a significant secondary handicap such as speech and/or motor impairment, behavioral problems, etc.

Once accepted as a potential candidate, participants were selected for job placement based upon the availability of an appropriate job into which they could be placed and trained. The job would provide at least minimum hourly wage and be within a managable distance from the client's place of residence. If several candidates were available for one job, the one who most closely matched the skill requirements for the job and possessed capatible behavioral characteristics for the setting was selected for the job based upon the judgement of the job trainer in charge. The demographic characteristics for entire group are given in detail below.

Procedures

The demographic variables available on each participant were collected at the time of placement and, in part, retrieved at a later date. Information was obtained from multiple sources including permanent records, psychological reports, social histories, parental and counselor reports. Raw data were compiled in a survey format, then coded for entry into a computerized data base.

On several variables, job trainers were required to rate the participant according to a four point scale to assess skill development in specific areas. These were reading, math, and time awareness skills as well as speech and language expressiveness. If any doubt occurred in the rating, the job trainer was asked to obtain agreement of one other job trainer or other individual familiar with the client.

Reliability

For 22 participants or 14% of the cases, all data were collected twice using a second job trainer as the primary data collector in a double-blind manner or in re-collecting data on an individual from the same job trainer under the pretense that some of the surveys had been misplaced. A reliability coefficient was established by using the formula below:

$$\frac{\text{Agreements}}{\text{\# of Agreements + \# of Disagreements}} \times 100$$

Interrater reliability estimates ranged from .69 to 1.00 with a mean of .82.

Dependent Measures

Retention in employment for a total of at least six months was selected as the dependent measure. This means that participants reaching this successful outcome could have worked only six months and one day or, for other early clients, the length of the entire program, i.e., six years. This also means that in some cases, clients reaching this level may have had more than one job. In approximately 15 percent of the cases, clients may have lost a job before six months but were replaced in other, more suitable jobs. The initial loss may have been due to a poor job to client match, skill or behavior deficits, or some other unforeseen problem such as a lay-off. However, since a supported work program is, indeed, a long term follow-along program, the model may in some cases replace clients in jobs. With a supported work approach, it is more appropriate to examine total job histories rather than the success in a single, entry level job since follow-along services, and sometimes replacement services are integral components of the model. This dependent measure is based upon time in employment only and not reasons for leaving employment. Therefore, participants not reaching this successful outcome may have been terminated for skill or social deficits, legitimately laid-off due to economic conditions, moved away or many other reasons.

Results

Demographic variables were compiled and cross tabulated to create a profile of the supported work model's service population. Tables 1, 2, 3, & 4 exhibit demographic characteristics on 155 clients served over the six year study period and cross tabulations are provided which show the percent of persons not reaching

the six month retention outcome compared to the percent of persons successfully reaching the six month retention outcome in competitive employment on each demographic variable. Table 1 shows the personal characteristics of the individuals in question; Table 2 shows specific information on academic skill development by these individuals. Table 3 shows relevant information regarding their histories of previous habilitative services and Table 4 provides the family support characteristics of these persons.

Statistical Analyses

Cross tabulations on the retention rates above and below six months for the total population of 155 clients show that approximately two-thirds (65%) of the client population in our pool have been retained in employment for at least a six month period. (The mean months employed for this same group is 20 months). Utilizing chi-square analyses, few statistically significant differences in the characteristics were found between the groups of persons retained in employment over six months versus those not retained. Close examination of the total group demographics as well as the varying percentages of the low (under 6 month) retention rate group versus the high (over 6 month) retention group on each demographic variable does, however, create a clear profile of the client population and offer some unexpected findings regarding the characteristics of these two groups. Although actual statistical significance was not achieved in most cases, significant differences were found between groups in four areas. These are: (1) sex differences approached significance (higher retention rates for males); (2) reading skill development differences (higher rates for persons with more limited reading skills); (3) differences in types of previous adult programs (higher rates for persons from transitional programs) and (4) differences in guardian identities (higher rate for those who did not have a natural parent listed as a primary guardian). These will be described further in the sequence in

which they appear in Tables 1, 2, 3, and 4.

Personal Characteristics

Sex differences. Table 1 shows that the majority of clients placed were

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males (66%) compared to a female representation of 35 %. Utilizing chi square analysis, the differences in terms of retention rates of males versus females approached a statistically significant level (P=.079). While 70% of males reach the successful retention rate of 6-months, only 55% of the female clients do so.

Age. Also in Table 1, the mean age of the client population is given at 30 years old with a range from 18 to 66 years. No significant age differences were found regarding the two retention levels although it is noted that those retained over 6 months are slightly older.

Developmental Level (I.Q.). Developmental or measured intelligence (I.Q.) scores derived from permanent records show that the program has placed a diverse group of individuals with functioning levels ranging from severe mental retardation to borderline categories. The majority of participants fell in the moderately mentally retarded (51%) range, with a 5% representation of persons in the severe range, 34% in the mild range, and 10% in the borderline mental retardation category. Scores have ranged from a low of 25 to a high score of 78. Six years ago, a determination of the program designers stipulated that any client who was accepted with diagnosis in the mild or borderline range of mental retardation must also exhibit at least one other secondary disability otherwise it was believed they did not require the extensive support services of the program. The mean I.Q. of the group was 50 and median 49.

No significant differences are found between the four developmental levels

regarding capacity to be retained in competitive employment over six months; however, it can be seen that there is a slightly higher representation of mildly mentally retarded persons in the below six month retention group. Persons who are moderately and severely mentally retarded and of the borderline mental retardation range appear to have better retention records. The mean I.Q. for the low retention group was 50.5 and the mean I.Q. for the high retention was 50.

Dual Diagnosis. Table 1 also shows various other categorical or behavior labels applied to these participants. Twenty-four percent were labeled behavior disordered, had documented problems with alcohol or exhibited documented behavioral problems which required specific intervention in their new jobs. Only 5% were labeled as schizophrenic. Both of these groups are considered groups with dual diagnosis based upon the documented secondary label with the diagnosis of mental retardation. The group labeled as behavior disordered (i.e., behavior or alcohol problems) showed no significant difference from the general population on retention rate and in fact, Table 1, shows less than one-fourth leaving employment permanently in the first 6 months as compared to the exit of one-third from the general population without a dual diagnosis.

The statistics for the small group diagnosed as mentally retarded and schizophrenic (n=6) are very different, however. This group tends to exit from employment before 6 months significantly more often than does the general population or the behavior disordered group ($P < .05$).

Speech and Language Impairments. A large percentage (38%) of the participants exhibit impaired speech and language skills ranging from verbal speech which is difficult to understand (31%) (i.e., the client must repeat verbal behavior frequently to be understood) to 7% exhibiting little or no speech and language whatsoever. Sixty-two percent of group exhibited clear verbal speech. Although no statistically significant differences between groups were found, the

group with impaired verbal speech showed slightly higher retention rates in competitive employment over 6 months. The second most successful group in this triad is the non-verbal group with 70% of these participants remaining in employment over 6 months. Unexpectedly, the clear speech group showed the lowest retention rate (63%) of the three groups but, of course, still approximates the norms for retention by the service population as a whole.

Other Secondary Handicaps. Not exhibited in Table 1 are data representing persons with other concomittant handicaps because again no significant differences were found for those individuals who exhibited additional physical or sensory handicaps. The percentages of those clients with other handicaps in addition to mental retardation are as follows: 10% with cerebral palsy, 12% with impaired abmulation (only one individual confined to a wheelchair was placed), 5% with hearing impairment, 10% with visual impairments, and nearly 10% with impaired arm/hand (one or both) use. The retention rates of these individuals is either identical or sometimes slightly higher than general mental retardation population with no secondary impairments.

Academic Skill Development. Table 2 shows the academic skill development for all clients and the cross tabulations of those who were not retained in competitive employment versus those who were retained at least six months by each academic skill variable. Table 2 shows that half of this service population had

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little or no math other than, perhaps, simple counting skills, one third had no reading skills other than simple symbols such as for the designation for rest rooms, nearly half who were either unaware of time or had only minimal awareness, i.e., they had to be taught to stop for breaks from visual cues in the environment. Few clients exhibited multiplication skills, 36% exhibited simple reading

at the second or third grade level, and 53% could use the hour and minute hand on a clock or watch. Individuals noted as having little or no arithmetic skills showed slightly higher retention rates in work (71%) than persons with more complex math skills (61%). This was also found to be true to a statistically significant level ($p < .04$) for persons with very limited reading skills (79%) compared to persons with more complex reading skills (61%). That is, significantly more persons who do not read were retained in employment over six months compared to persons with more complex reading skills.

A similar trend, though not to a significant level, can be seen in the time awareness area. Here, the group rated as having only "minimal" time awareness reached the over 6 months retention rate seemingly more often (i.e., 86% of the cases) than the other two groups made up of persons with little time awareness (63%) to complex time telling skills (62%).

Previous Habilitation Histories. Table 3 shows the histories of previously received social services for all clients and the comparison of the low retention group to the high retention group on each social service variable. Three services

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are addressed in Table 3. First, the histories of previous financial aid. Second, the histories of adult activities center and/or sheltered workshop enrollment. Third, the earnings from the year previous to placement are examined.

Financial Aid. Table 3 shows the large majority of these individuals did receive regular financial aid prior to placement (86%) either in the form of SSI or SSDI. No differences in retention rates are apparent between persons who previously received financial aid and those who did not.

Previous Work Program Enrollment. One in five had attended an adult day program, often called an activities center or developmental center, where they

received no pay for activities completed. The mean time enrolled in such a program was almost two years. Fifty-seven percent had attended a sheltered workshop at one time in their lives and the average time enrolled was almost three and one-half years for that group.

Table 3 also shows that two clearly different types of day activities centers and sheltered workshops were identified. Type 1 included regular training and transitional exposure in the community such as in enclaves; while type II included only in-house training where clients rarely left a designated, segregated setting during the day. The statistics on workshops and centers are combined on these program characteristics since many included similiar curricula. Of our clients who attended such programs, 56% attended workshops and activities centers emphasizing community training. In contrast, 44% attended programs which were segregated, and provided in-house only training. Individuals who were once served in the type 1, transitional programs, were more likely to be retained in competitive employment over 6 months (72%) compared to the representation of only 49% high retention of those persons who had attended segregated, in-house only training programs in the over six month retention category. This, too, was found to be a statistically significant difference ($p < .05$).

Earnings Year Previous to Placement. Data on annual income earned in the year previous to our placement efforts showed that only 18% earned over $200. that year and the mean annual salary for that group was $551. The remaining 82% had earned less than $200. the year before placement. Of the small group of individuals who did earn over $200, however, somewhat higher retention rates over six months in competitive employment are found. This factor approaches significant levels ($p = .07$).

Other social services received but not represented in Table 3 due to lack of significant differences between groups are previous histories of state

vocational rehabilitation services, institutionalization, and public school backgrounds. Regarding previous vocational rehabilitation services, about half of the population had received some sort of services from this agency ranging from evaluation only, to previous but failed job placements. Of that 50%, all of these had been designated as "severely disabled" by the State Vocational Rehabilitation Department, and almost 50% of these had a "28" case status meaning case-closed due to lack of previous placement success. Persons who were at one time serviced by vocational rehabilitation had about the same over six month retention record (68%) as those who had no history of rehabilitation services (61%).

One-fourth of our total group had been institutionalized at some point in their lives and the mean length of institutionalization for that group was 10.7 years. No difference in retention success was found on this variable.

The vast majority attended a public school program with a mean years enrolled of 9.3. Many (46%) attended segregated special centers although 43% attended school in regular education buildings. Almost all (94%) were schooled in self-contained classrooms. Sixty-four percent received no vocational training at the secondary level. Only 16% received work experience in the community during their secondary school years. Again, no major differences were seen in retention success regarding any of these public school background variables.

Family Support Characteristics

Table 4 shows three types of information indicating degrees of family support

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for all clients and compares the group leaving employment before six months to those succeeding beyond six months or more. The variables are: 1) residential situation, 2) identify of the primary guardian, and 3) degree of other (sibling)

family interactions.

Residential Situation. Regarding the clients residential situations, the great majority (72%) did live with their families at the time of placement; 10 percent in group homes. No significant differences were found on this variable although a slightly higher percentage of group home/boarding house clients met the over six month criterion.

Identity of Guardian. The primary guardian for most clients (67%) was the natural parent. Other participants had a legal guardian (12%) or did not have an official guardian (21%) other than a service provider such as a group home counselor. Significant differences were found between the natural parent group and the remaining 33% of the clients who did not have a natural parent as a guardian. The group with a natural parent as a guardian show lower rates of achieving six months of competitive employment compared to the non-parent guardian group ($p < .03$).

Family Interactions. Finally, in the majority of the cases (63%) we found our clients had frequent interactions with siblings. No difference can be seen regarding retention rates on this family support variable.

Not exhibited in Table 4 are occupations and educational backgrounds of parent or chief wage earner in the client home. All occupations and levels of educational background were represented but appeared to have no impact on client retention rates except that sons or daughters of unemployed persons were slightly more likely to be retained (72%) over six months.

Discussion

The general demographics given create a profile of a six year service population of individuals who are mentally retarded and who were placed into competitive employment via the supported work model. The largest representation of a single disability group was that of the moderately mentally retarded followed by mildly

mentally retarded. In addition to retardation, approximately 40% had impaired speech, one in 10 had a sensory impairment, and one in five had been labeled behavior disordered. These are the groups who traditionally have been relegated to sheltered employment or no employment throughout their lives in that they generally do not obtain and maintain a job independently.

The demographics also show that the population is made up of individuals from diverse backgrounds and not simply from the upper-middle class, supportive home with college educated parents. Rather, many had been institutionalized for long periods of time, one half came from families whose chief wage earner was either unemployed or in a blue collar position and one-third of the clients did not even reside within the family unit.

Interestingly, lack of academic skill development has not precluded job placement or retention in that these demographic data show that the great majority have very limited math and reading skills and almost half cannot tell time.

Finally, although the general demographics show that the population received every type of habilitation services commonly available at the community level, only 18% of these adults had earned over $200. as an annual salary the year prior to our intervention. A great majority (86%) were receiving financial aid from the government but not the appropriate services which could enable them to transition into the mainstream of competitive employment.

Several groups are underrepresented in the demographics of this total service population. One of these is the group of women served. Presumably the underrepresentation of females is largely due to an entry level job market already flooded with unskilled but nonhandicapped females in need of work. In contrast, males often make up the "skilled" labor force. Therefore, it appears that there is a scarcity of unskilled males at entry level needed for what is described as "heavier" work. The men in our program have apparently been filling this gap.

Every effort must be made to reduce this inequitable provision of services to women who are handicapped. Perhaps, additional advocacy is needed at the job-find stage to identify more jobs for females and to enable appropriate women to enter jobs traditionally thought of as too physically rigorous for the "weaker sex".

Other obviously underrepresented groups in these demographics are persons who are severely mentally retarded or have physical handicaps as well as mental retardation. This underrepresentation is certainly due to the lack of what we have considered appropriate jobs for these individuals available in the competitive job market. Although, theoretically, the program holds that severely and multiply handicapped persons can become competitively employed, even more special accomodations or adaptations than we have used previously may be needed on most job sites as well as the affirmative action and interest of employers and coworkers. These presumptions should not, however, preclude placement with these individuals especially at the demonstration level such as the case with our program. Multiple experimental demonstrations are needed with individuals who are severely mentally retarded and physically disabled.

Analyses showing significant differences between groups who leave competitive employment before six months and those who are retained over six months yield interesting and unexpected findings. First, it was found that significantly fewer females are retained in competitive employment over six months when compared to the males. As stated above, this is apparently a cultural phenomena related to an inherently sexist job market. Just as nonhandicapped females represent a highly underemployed, underpaid work force, women who are retarded may be a far less valued component of the work force than their male counterparts. Not only is it harder to place mentally retarded females, but it is also harder to help them maintain employment. Future research must examine the specific reasons for job

separation for females.

Individuals labeled as schizophrenic also were separated from their competitive employment significantly more than the general behavior disordered group and the general population. Although this was a small group, the figures are striking. The explanation for such a high failure rate with this group is probably due to the lack of training and experience of staff to deal with problems unique to this group. By and large the staff is made up of individuals with training in special education and applied behavior analyses and not in specialized mental health training. The serious and unique problems of this disability interacting with work requirements may also be responsible for this lack of success.

Persons with more refined reading skills left competitive employment with the supported work model before six months, significantly more than persons with more limited reading skills. This trend was seen, though not to a significant level, in other academic skills as well, such as arithmetic and time awareness. These unexpected findings may be an artifact of the supported work model, itself. That is, this model was designed and developed to serve individuals who are significantly handicapped. Therefore, our approach toward entry level job-find may, in fact, underemploy some participants with more complex academic skills. Another explanation may be that these individuals appear, on the surface, to require less intensive training; therefore, the job trainer may fade from the job site too quickly, setting up a situation where the participant is more likely to fail. Further, research must be accomplished in the near future to examine the intensity of training for persons displaying varying levels of reading skills and the specific reasons for job separation of this group.

Of individuals who were previously served in sheltered workshops or adult activities centers, if they attended an in-house only training program which

segregated them from regular training in natural community work environments, they were significantly more likely to leave competitive employment in less than 6 months. Thus, these data show that those who attended programs which provide transitional community-oriented training such as work crews and enclaves, have a significantly better chance of being retained in competitive employment beyond six months than their counter-parts from segregated settings. Although this fact may not be at all surprising to programmers in the field, it is, perhaps, the first clear documentation of the superiority of community-oriented training programs to enhance transition to the competitive work world.

Finally and most unexpectedly we find that persons whose identified guardian is not a natural parent (i.e., persons with a legal guardian or service provider relationship only) tend to be retained in competitive employment over six months significantly more than those who do possess a natural parent as a guardian. This is a particularly remarkable result in view of the criticism often leveled at the supported work model regarding the need for the supportive, involved parent. This finding shows that, in fact, parents retaining active status as a guardian with adults may impede maintenance in competitive employment. Again, far more research is needed to understand why this result was found. However, at an anecdotal level, job placement specialists often find parents of mentally retarded persons frequently have low expectations for the success of their son/daughter in any work setting. They often state that they have been told all of their childrens' lives not to expect competitive employment for their children. Further, incentives do not exist for the parent to ensure that their child succeeds. Parents know that financial aid and day program support is usually available for unemployed, disabled persons. Therefore, employment may be viewed as unpredictable, unfamiliar, and risky at best. The parental dilemma is understandable and legitimate. Loosening the restrictions for loss of financial

-id, decreasing the monetary disencentives, and providing for rapid reevaluation to return to the roles of the aid after a job failure, may be the strongest tools in changing parental attitudes in this country.

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Table 1

CHARACTERISTICS OF CLIENT POPULATION
(Demographics and Cross Tabulations
on Retention Rates Above and Below Six Months)

Characteristics		Total Group Demographics	Retention < 6 Months	Retention > 6 Months
Total Number		155	35%	65%
SEX	Male	66%	30%	70% [1]
	Female	34%	45%	56% [1]
AGE	Mean	30 Years	29	32
	Range	18-66 Years		
DEVELOPMENTAL LEVEL				
	Severe	5%	20%	80%
	Moderate	51%	34%	66%
	Mild	34%	43%	57%
	Borderline	10%	19%	81%
	Median	49		
	Mean	50	I.Q.= 50.5	I.Q.= 50
	Range	25-78 [2]		
BEHAVIORAL LABELS				
	Alcoholism/ Behavior Disorder	24%	21%	80%
	Schizophrenic	5%	67%	30%*
	No Labels	71%	36%	64%
SPEECH & LANGUAGE IMPAIRMENTS				
	Clear Verbal Speech	63%	37%	63%
	Unclear Verbal Speech	30%	28%	72%
	Largely Vocalizations Only	7%	30%	70%

* $p < .05$
1 p .07

2 persons with I.Q.'s measured in 70's were multiply handicapped

Table 2

ACADEMIC SKILL DEVELOPMENT OF ALL CLIENTS AND
CROSS TABULATIONS ON RETENTION RATES BELOW AND ABOVE SIX MONTHS

ACADEMIC SKILLS DEVELOPMENT	Total Group Demographics	Retention < 6 Months	Retention > 6 Months
Arithmetic			
None to Simple Counting	50%	29%	71%
Add/Subtract(plus)	50%	39%	61%
Reading			
None to Symbol Recognition	29%	21%	79%*
Sight Words to Simple Reading	71%	39%	61%*
Time Awareness			
None	11%	37%	63%
Minor	15%	14%	86%
Use Hour and Minute Hand	74%	38%	62%

* $p < .05$

Table 3

HISTORIES OF PREVIOUS SOCIAL SERVICES/HABILITATION EFFORTS FOR ALL CLIENTS AND CROSS TABULATION FOR RETENTION BELOW AND ABOVE SIX MONTHS

Demographic Information	Total Group Demographics	Retention < 6 Months	Retention > 6 Months
PREVIOUS SOCIAL SERVICES			
Financial Aid Prior to Placement	86%	35%	65%
No Aid	14%	37%	63%
Adult Activities Center Prior to Placement	21%	31%	69%
A. Mean Months Enrolled	22 Months	24 Months	21 Months
No Activities Center	79%	35%	65%
Sheltered Workshop Prior to Placement	57%	38%	62%
A. Mean Months Enrolled	42 Months	49 Months	38 Months
No Sheltered Workshop	43%	30%	70%
Type 1 - *Received Community-Based Training While In Activities or Workshop Program	56%	28%	72%*
Type 2 - Segregated/In-House Only Training in Center or Workshop	44%	51%	49%*
PREVIOUS EARNINGS			
Earned More Than $200 Year Prior To Placement	19%	18%	81%**
Earned Less Than $200 Year Prior	81%	39%	61%**

* $p < .05$
** $p = .07$

Table 4

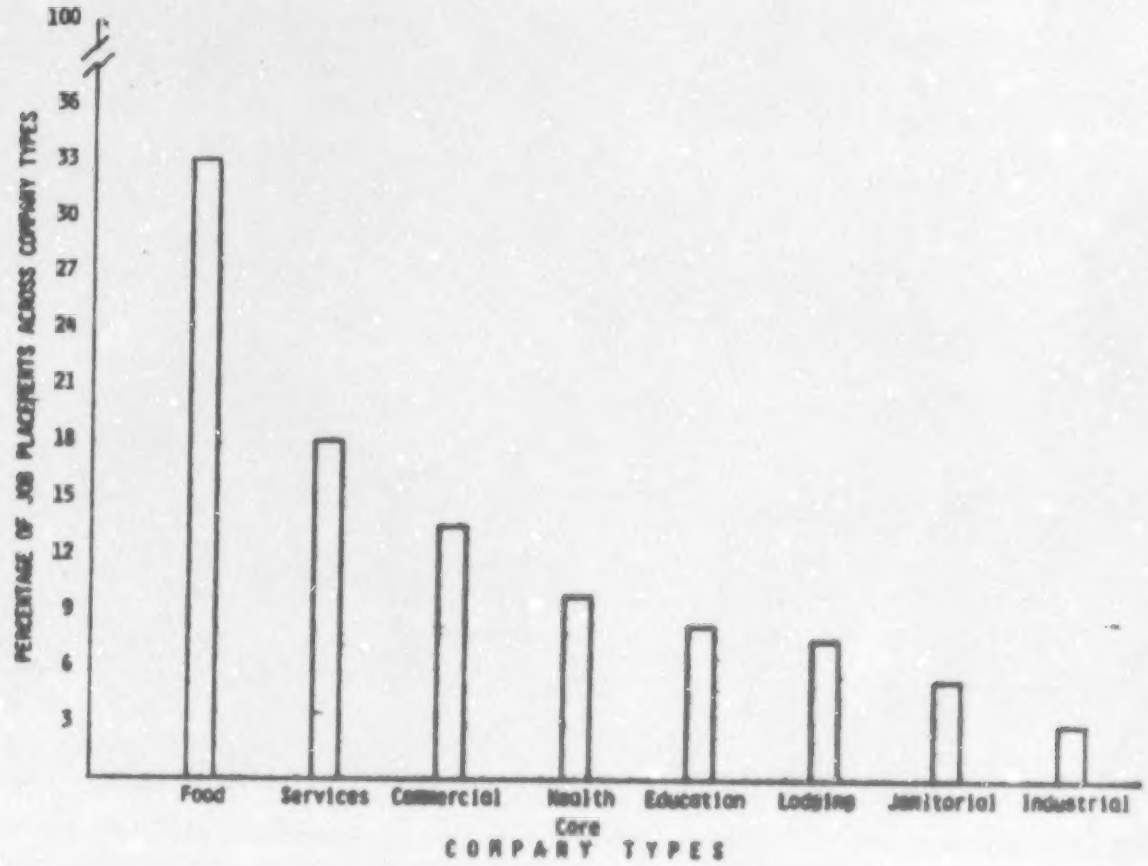
FAMILY SUPPORT CHARACTERISTICS FOR ALL CLIENTS WITH CROSS TABULATIONS ON EACH VARIABLE FOR LOW AND HIGH RETENTION GROUPS

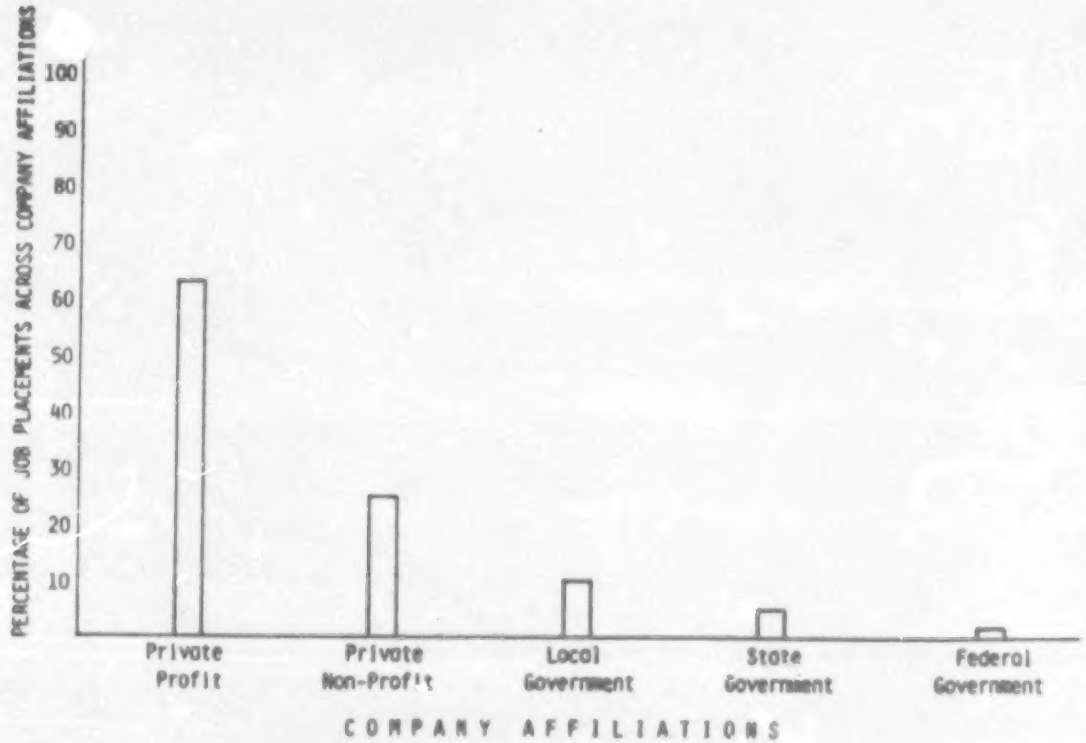
Demographic Information	Total Group Demographics	Retention < 6 Months	Retention > 6 Months
RESIDENTIAL SITUATION			
With Parents/ Family at Placement	71%	37%	63%
Group Home or Boarding House	16%	26%	74%
Supervised Apartment	6%	33%	67%
Independent Living	7%	39%	61%
IDENTITY OF PRIMARY GUARDIAN			
Natural Parent	66%	42%	58%*
Legal Guardian/ Service Provider/ Other	34%	24%	76%*
OTHER FAMILY SUPPORT			
Interacts With Siblings	61%	33%	67%
No Interaction With Siblings	39%	39%	61%

* $p < .05$

Figure Caption

Figure 1 - Percent of job placements across company types and company affiliations from six year service period (1979-1984).


PERCENTAGE OF JOB PLACEMENTS ACROSS COMPANY TYPES
100
36
33
30
27
24
21
18
15
12
9
6
3
Food
Services
Commercial
Health Care
Education
Lodging
Janitorial
Industrial
COMPANY TYPES


PERCENTAGE OF JOB PLACEMENTS ACROSS COMPANY AFFILIATIONS
100
90
80
70
60
50
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Private Profit
Private Non-Profit
Local Government
State Government
Federal Government
COMPANY AFFILIATIONS

DIFFERENTIAL REASONS FOR JOB SEPARATION OF PREVIOUSLY EMPLOYED MENTALLY RETARDED PERSONS ACROSS MEASURED INTELLIGENCE LEVELS

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Abstract

Reasons for job separations of mentally retarded persons placed in competitive employment situations were analyzed from a six year study period. Of the 107 separations which occurred, 50% were caused by client-related reasons such as attitude problems and skill or behavioral deficits. The other half were caused by environmental forces outside the control of the client and often beyond the control of the job trainer supplying supported work services. Highly significant differences were found in the mean I.Q. scores for the client-caused separation group (Mean I.Q. 55) versus the environmentally-caused separation group (Mean I.Q. 48) when subjected to analysis of variance. Implications of these findings for appropriate program efforts with mildly and moderately handicapped individuals are discussed.

Differential Reasons for Job Separation of Previously Employed Mentally Retarded Persons Across Measured Intelligence Levels

The reasons for the success or failure of mentally retarded workers in their jobs are of substantial interest to those professionals who are engaged in the development of employment programs (Kochany & Keller, 1981). Persons with mental retardation and their families are also concerned that many variables remain unresolved regarding the outcomes of job placement (Hill, J., Seyfarth, Orelove, Wehman, & Banks, 1985). Further, the rehabilitation community in general is currently exhibiting increased interest in the competitive employment potential of persons who are mentally retarded (Bellamy et al., 1984; Wehman & Kregel, 1984). Many investigators are concerning themselves with outcomes of job placement such as retention time (Fulton, 1972) and the varied causes of eventual job loss (Greenspan & Shoultz, 1981).

As the push for competitive employment programs has expanded in recent years, assessing only the number of successful and unsuccessful job placements is not enough for agencies to do in evaluating the effectiveness of their intervention. It is increasingly clear that detailed records which reflect the reasons <u>why</u> handicapped persons were separated from employment is necessary. This type of information may help prevent future job separations of this population which is relatively new to the competitive work force (Brolin, 1982; Cohen, 1962).

We have identified four basic categories of job separation. These are: 1) resignations, 2) terminations (firings), 3) lay-offs, and 4) official leaves of absence. More importantly, the cause of any job separation may be traced either to internal actions (behaviors/deficits) exhibited by the client or to external environmental forces (economic recession, parental interference) which are not usually under the client's control. Therefore, professionals involved in job placement activity must determine whether client skill deficits, inappropriate

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behavior, or poor client work behavior brought about the job separation or whether external actions on the part of the agents in the environment were responsible for the separation. Specific identification and analysis of the reasons for job separation will greatly enhance program evaluation and help facilitate the replacement of the client. Obviously, in the client-related separations the need for more work in direct job site training on work skills and improving client work attitudes and social behavior will be necessary. On the other hand, externally influenced separations may underscore the need for comprehensive case management services which involve intervention outside of the job setting as well as on-the-job. These services might include parent communication, stronger job site advocacy with employers and coworkers, working with social security representatives, etc. Thus, assessing the nature of a job separation is important because it will have direct relevance to the type of job selected, the training activities necessary, and the degree of staff commitment which will be required for effective intervention.

One such study which evaluated separations of mentally retarded workers from their jobs is reported by Greenspan and Shoultz (1981). In this analysis, 30 mentally retarded individuals placed into jobs in the community were studied. A follow-up investigation interviewed employers to see why these individuals were fired. Terminations were classified into social and nonsocial reasons. Seventeen of the 30 individuals lost their jobs because of socially inappropriate behavior. The average measured intelligence of this sample was 61 and most positions were entry level service occupations. In another follow-up study (Brickey, Campbell, & Browning, in press), employers were queried as to the reasons for terminations of competitively employed retarded persons who previously had held sheltered workshop jobs. The job separation reasons stated were largely limited to behavior on the part of the client. The following reasons were given: hypochondria, job too

strenuous, insubordination, poor attendance, and refused to accept supervisor's instructions.

In a similar vein, Kochany and Keller (1981) did a case-by-case analysis of mentally retarded persons who failed, dividing lack of retention into the following categories: lack of agency support, parental influence, supervisor vacillation, inappropriate social behavior and poor attendance. Internal client-related problems such as inappropriate social behavior and poor attendance were a leading cause, but external factors such as supervisor vacillation and parental influence were also significant contributors to separation.

The principle value of the Kochany and Keller chapter was that it was a specific case-by-case analysis where data were gathered through on-going assessment by a job trainer responsible for the retarded employee's performance and not from less reliable follow-up records. These data were a part of a project then called "Project Employability" (Wehman, Hill, & Koehler, 1979,a;b), and now part of the Virginia Commonwealth University Rehabilitation Research and Training Center.

It is the purpose of this paper to substantially expand the Kochany and Keller chapter (1981) by reporting the reasons for separation from jobs of a much larger data bank of 107 separations. We will examine differential reasons for job separation of individuals by varying levels of intellectual functioning. Implications of these data for other employment programs will also be considered and evaluated.

Method

Participants and Settings

Job separation data which have evolved from over 230 competitive employment job placements made in Virginia through a special project were analyzed for this investigation. These placements were made between 1978 and 1984. The individuals

placed in these jobs were 165 adults who are mentally retarded. Approximately 25% of the population has been placed in more than one job. The range of measured intelligence was 25 to 78 with a mean of 51 and a median of 50. Approximately 70% of participants have attended either a sheltered workshp or adult activity center and 86% were receiving financial aid from the government at the time of placement. This population was comprised of 65% males and 35% females with a mean age of 29 years old. All individuals received placement, one-to-one on-site job training, and follow-along services consistent with a supported work approach to competitive employment (Wehman, 1981; Wehman & Kregel, 1984). All participants have been placed into jobs in natural community job settings and were hired at a salary of at least minimum wage or better on the company's own payroll. Over 125 companies of various types have been involved. Company types were as follows: 33% food service, 7% janitorial, 3% industrial, 18% services, 14% commercial businesses, 8% educational facilities, 10% health care, and 7% lodging facilities.

Instrument and Procedures

Longitudinal data of the job placement study period (1978 to 1984) showed that 107 separations had taken place from which clear reasons for the job loss could be identified within client records or by job trainers. An examination of these data brought about agreement that there were approximately 21 commonly occurring reasons for job separations from an extensive perusal of the client files as well as job trainer delineations. These 21 specific reasons were then collapsed into seven distinct categories related to the primary cause of job separation. These were: 1) client skill deficits, 2) client attitudinal problems, 3) client interfering behavior, 4) external economic lay-offs, 5) external parental interference, 6) negative social-contextual reactions, and 7) an "other" category of external causes. It is important to note that the first three of these categories are related to behaviors, deficits, or actions internal to the

client, while the remaining four categories are clearly related to external environmental variables acting upon the client and resulting in job separation. The seven categories with the accompanying specific reasons for separation are given in Table 1.

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Each of the seven categories and 21 specific reasons for job separation were defined and listed in a survey format. Fourteen staff and job trainers then analyzed the specific job separation reason from the client's file and placed it into only one of the 21 possible choices. The job trainer who had actually worked with the client at the time of job separation provided this information in most cases. In those cases where the original job trainer was no longer available, a job trainer who was on-staff at the time of the separation provided the information based upon personal knowledge and the client's file. The time involved in organizing the data for this analysis was four months. When more than one job coordinator worked with a client, the second job coordinator was asked to participate in the decision-making process as to the reason for the superation. If uncertainty existed about the true reason for separation of a client, the job trainer was asked to obtain agreement with one other trainer before assigning the separation to a category. Obviously, in some cases there was one major reason for job separation; in many other cases, however, there were multiple reasons. In these cases the primary or most evident reason was recorded.

Reliability

For 20 separations, or in approximately 18.6% of the cases, the reasons for separation were collected twice using a second related job trainer to provide the primary reason for separation in a double blind manner or data were re-gathered using the same trainer under the pretense that some data had been misplaced. A

reliability coefficient was established by the formula below:

$$\frac{\text{Agreements}}{\text{\# of Agreements + \# of Disagreements}} \times 100 = \% \text{ Agreements}$$

Reliability coefficient of .86 was established for these 20 cases.

Results

Table 1 provides a frequency count and a percentage of each specific type of separation divided into seven distinct categories and the 21 more specific reasons under the categories. The mean measured intelligence (I.Q.) for the group of individuals separated from their jobs for each of the reasons is also given.

Within this table it can be seen that the greatest number of separations (26%) was attributable to client attitudinal problems expressed by a lack of desire to work, a lack of effort, poor attendance, and a small number who were involved in theft. This group also had the highest mean I.Q. (59.7%).

The second major cause of separations (17.7%) came from an external force described as negative social-contextual reactions to the client. This category was comprised of separations which occurred due to negative employer/coworker attitudes even though the client was working according to employer standards. Also within this category are four clients who were laid-off at the end of the season as were all employees but the supervisors stated that these clients were not welcome back when work resumed in the fall. No specific reason other than "he/she just doesn't fit in" were given and it appeared that this seasonal lay-off was a convenient time to separate the employee. Two clients were terminated for inappropriate appearance for the setting. In both cases it was not an appearance problem which could be remediated but rather that these individuals looked "retarded".

The third major cause of separation (14%) was client work skill deficits and the fourth cause (13%) was legitimate economic lay-offs due to downturns in the

business cycle. The fifth most common reason (10%) was client interfering behavior such as aberrant displays of perseveration, self-injury, etc. or insubordination/agression toward employer or coworkers.

Ten percent of the separations were caused by a variety of "other" external forces outside the control of the client, the employer, and the job trainer. These involved transportation problems, changes in residential situation, medical leaves, and in one case, financial aid interference (that is, it was not advisable for the client to lose Medicaid because of extreme health problems). Five clients who were re-placed by the program in "better" jobs (usually with more weekly hours) are also included in this category.

Finally, the least frequent cause of separation (8.4%) was that of parental interference in which a parent actually demanded that the son/daughter leave the job. The program experienced many more threats from parents, but this figure represents the percent who carried out such threats.

Exactly half of these separations were attributable to internal client-actions and half to external environmental actions. Utilizing analysis of variance the group mean I.Q. for internal client-related separations was found to be statistically different from the group mean I.Q. of the persons separated by external reasons to the .0001 level of confidence. Specifically, it was found that individuals with higher I.Q.'s (in the mid-50's in this case) were separated from their jobs based upon behaviors, deficits, and actions which could be traced to the client. Persons with lower I.Q.'s (in the mid 40's in this analysis) were separated from their jobs by external, environmental forces originally defined as outside the control of the client, and, sometimes, outside the control of the job placement specialist.

Discussion

The statistically significant differences in the measured I.Q. scores of

the groups separated due to internal client actions versus environmental reasons is an important finding. These results provide actual quantitative data to show an association of measured intelligence with nature of job separation. These data show that, in our population, if a more mildly mentally retarded person with an average measured I.Q. in the mid-50's is separated from a job, he/she tends to be the "actor" who frequently causes his or her own job separation due to skill or behavioral deficits. In contrast, if a more significantly mentally retarded person is separated from a job, it is generally because the environment acts upon this individual. One explanation of this finding may be that less intellectually capable persons are more subject to external forces in the environment and less likely to act on their own to bring about job separation because of the nature of their disability. However, although they are less apt to exhibit a specific behavior which may lead to job separation, they do appear to be the "first to go" when lay-offs occur. In addition, nonhandicapped supervisors and coworkers appear to remain more uncomfortable with them than with the mildly handicapped workers served in our program. Parents also seem to have far more control over the work activities of persons who are more significantly handicapped.

Mildly mentally retarded individuals experience significantly more separations due to behaviors expressing poor work attitudes (e.g., "not trying", poor attendance, "not wanting to work", etc.). Several possible explanations for this emerges from our experience in job placement. In many cases, extremely low expectations have been held for these individuals throughout their school years and into their adulthood. Usually, these individuals have attended watered-down, academically-oriented school and other vocational training programs, originally designed for nonhandicapped persons. In actuality, they may have received less systematic training and work experience in the community than moderately to severely mentally retarded persons. If mildly mentally retarded persons work at

all, even occasionally, society often seems satisfied. These low expectations coupled with poor or lax training programs certainly contribute to the poor work attitudes of some of these clients. In some cases, clients separated from jobs in this category have actually wanted to return to the workshop because they miss the bowling league or other recreation-like activities.

Finally, in a limited number of cases we have found that individuals who are more intellectually capable may be more sharply aware of the gross financial disincentives for the disabled in this country. That is, these clients may be more cognizant of the fact that they will receive a disability check whether they work or not. One clear fact which emerges from these data is that attitudinal and low motivational problems are difficult problems to overcome even within the supported work model; over one-fourth of this program's separations have occurred due to this reason. Part of the attempt to remediate this problem must be to reach secondary-school and adult training programs and impress upon them the importance of creating a true work environment, providing systematic training and developing appropriate work attitudes.

These data alone show that further research and demonstration is needed in implementing effective behavior acceleration and deceleration programs in natural job sites, as well as the improvement in teaching of generalization and maintenance of skills on-the-job after the trainer is gone.

Finally, these data indicate that comprehensive support services are needed for persons who are moderately to severely mentally retarded. This investigation shows that these individuals were more at the mercy of economic downturns, parental interference, negative employer/coworker attitudes, and many other external factors outside of their control. Much hard work in the form of job site advocacy and more effective support services outside of the job site are strongly indicated for persons functioning at lower developmental levels.

Recent data show that most mentally retarded persons can work for competitive wages for extended periods of time (Hill, Hill, Wehman, Banks, Britt, & Pendleton, 1982). In fact, after six months of employment approximately 65% of individuals in our job placement program are still employed in a competitive job. It is important to note that this investigation represents only the proportion of clients who were separated from jobs over the six year study period.

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Table 1

Reasons For Job Separation of Previously Employed
Mentally Retarded Persons
N=107

CAUSES OF SEPARATIONS	N	PERCENT	MEAN I. Q.
I. INTERNAL CLIENT SKILL DEFICITS			
1. Low Quality Work	6	5.6%	52.00
2. Too Slow in Work	5	4.6%	56.80
3. Needed Too Much Supervision	4	3.7%	55.00
TOTAL CLIENT SKILL DEFICITS	15	14%	54.6
II. INTERNAL CLIENT ATTITUDINAL/PROBLEMS			
1. Chose to Take Non-Medical Leave	2	1.8%	68.50
2. Does Not Want to Work	7	6.5%	61.57
3. Does Not "Try"	5	4.6%	58.00
4. Poor Attendance/Tardiness	9	8.4%	52.78
5. Theft	5	4.6%	58.00
TOTAL CLIENT ATTITUDINAL PROBLEMS	28	26.1%	59.77
III. CLIENT INTERFERING BEHAVIOR			
1. Insubordinate/Aggressive	5	4.6%	47.60
2. Aberrant Behavior	6	5.6%	53.33
TOTAL CLIENT INTERFERING BEHAVIOR	11	10.2%	50.46
* TOTAL INTERNAL (CLIENT-RELATED) CAUSES	54	50.40%	54.94*
IV. EXTERNAL ECONOMIC LAY-OFFS			
1. Legitimate Lay-Off	10	9.3%	50.20
2. Seasonal Lay-Off, Can Return	4	3.7%	45.25
TOTAL EXTERNAL ECONOMIC LAY-OFFS	14	13%	47.72
V. EXTERNAL PARENTAL INTERFERENCE			
1. Resigned Due to Parental Pressure	9	8.4%	51.00
TOTAL PARENTAL INTERFERENCE	9	8.4%	51.00

Table 1 - Continued:

Reasons For Job Separation of Previously Employed
Mentally Retarded Persons
N=107

CAUSES OF SEPARATIONS		N	PERCENT	MEAN I. Q.
VI.	EXTERNAL SOCIAL-CONTEXTUAL REACTIONS			
	1. Supervisor/Coworkers "Uncomfortable" With Client	13	12.1%	49.00
	2. Seasonal Lay-Off, Cannot Return	4	3.7%	50.50
	3. Appearance Not Appropriate For Setting	2	1.8%	43.00
	TOTAL EXTERNAL SOCIAL-CONTEXTUAL REACTIONS	19	17.7%	47.5
VII.	OTHER EXTERNAL CAUSES			
	1. Family Moved	2	1.8%	42.00
	2. Medical Leave	2	1.8%	42.00
	3. Financial Aid Interference	1	.93%	43.00
	4. Placed in Better Job	5	4.6%	47.4
	5. Transportation Problems	1	.93%	49.00
	TOTAL OTHER EXTERNAL CAUSES	11	10.10%	44.68
*	TOTAL EXTERNAL (ENVIRONMENTAL) CAUSES	53	49.50%	47.72*
*	TOTAL INTERNAL (CLIENT-RELATED) CAUSES FROM ABOVE)	54	50.40%	54.94*

*p < .0001 f value 16.23

AN ANALYSIS OF MONETARY AND NONMONETARY OUTCOMES ASSOCIATED WITH COMPETITIVE EMPLOYMENT OF MENTALLY RETARDED PERSONS

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Abstract

Monetary and nonmonetary outcomes in a systems approach to program evaluation of the supported work model of competitive employment for disabled persons are given. Three replicable levels of program evaluation are presented: At the systems level (benefit cost analysis), at the service delivery level (a Program Efficiency Index), and at the participant level (time employed first year in labor market). Group outcomes on each level of evaluation are given from the longitudinal data of a six year transitional and supported employment program in the State of Virginia.

An Analysis of Monetary and Nonmonetary Outcomes Associated With Competitive Employment of Mentally Retarded Persons

One weakness of many vocational training programs for persons with disabilities is the inadequate methods used to evaluate the effectiveness and relative costs associated with the supplied intervention (Boschen, 1984). Most service providers are rarely trained in quantitative evaluation techniques to assess benefits versus costs or other outcomes; further there is frequently little time or motivation to engage in this type of analysis. Consequently, program evaluation takes on secondary importance rather than the necessary primary focus for determining effective delivery of vocational services (Schalock & Hill, in press).

Although the need for accountability in human service programs is not a new issue, with the massive budget deficits as well as an expanding number of alternatives in human service programming, the issue of benefit-cost analysis has taken on special significance (Hill & Wehman, 1983; Thornton, 1984). Conley (1974) defines this economic program evaluation as "...the study of the allocation of scare resources among competing uses." Persons with disabilities, taxpayers, and society as a whole want to know what outcomes are associated with the services provided and how much they cost. While it is true that some service providers are beginning to validate their efforts by factoring in benefits versus costs (Cronin & Cuvo, 1979; Schalock & Hill, in press; Hill & Wehman, 1983; Schneider, Rusch, Henderson, and Geske, 1981), this approach remains the exception rather than the rule.

The need for appropriate program evaluation associated with the limited funds available for employment initiatives for the handicapped is particularly critical. Unemployment and/or underemployment is one of the single greatest problems facing persons with disabilities today. Between 50 to 75 percent of

disabled persons are unemployed (U. S. Commission on Civil Rights, 1983) and for those 'employed' by sheltered workshops the average annual wage was $417. in 1976 according to the U. S. Department of Labor (1977). As a result of this nationwide problem, there has been a great rise in federal, state, and local initiatives to assist programs in redesigning more appropriate employment services for disabled persons (Elder, 1984; Will, 1984). However, although funds will be available to modernize employment service systems, appropriate outcome-oriented evaluation of proposed systems will be a must to obtain, still, limited funds. In addition, greater competition from private corporations offering alternative employment services is a trend of the future and already a reality in the State of Washington (O'Neill & Associates, 1984). The 1980's will certainly prove to be a period of increased critical evaluation of vocational services to disabled adults.

Although benefit-cost analysis, providing data on reducing program and subsidy costs but maximizing independence of the individual, is necessarily a primary evaluative measure, other forms of evaluation are equally important. In human services, we need to know more than the relative benefits versus the costs to the system providing a service. There are at least two other levels of evaluation needed: 1) outcomes at service delivery level and 2) outcomes at the participant level.

At the service delivery level, program managers need to evaluate the logistical feasibility of service provision and if such services bring about more efficient staff utilization. At the individual participant level, clear evaluative measures of the outcomes of employment on the individual must be delineated. These measures should include qualitative as well as quantitative data.

The purpose of this paper is to describe three measures of outcome-oriented

evaluation of employment services to severely disabled persons. Each outcome measures the services delivered from three different levels or perspectives of the service provision system as a whole: 1) the broad systems level; 2) the service delivery level; and 3) the individual participant level.

Evaluating each level of an entire service system model such as this provides a basic minimum for a systems approach to monitoring and evaluating employment services as described by Schalock & Hill (in press). That is, an evaluation plan for a proposed service should provide at least one measure of each level of the service provision system as shown below. The outcome measures for each level described in this paper are also given below.

I.	Systems Level:	Benefit-Cost Ratio
II.	Service Delivery Level:	Program Efficiency Index (Percent of time clients are employed divided by total time in labor market).
III.	Individual Participant Level:	Total employment time first year in job market.

It should be noted that there are many other specific outcome measures which could be used to evaluate services at each level. The particular outcome measures tracked and presented in this paper were possible with the longitudinal tracking capabilities of the research division of the Virginia Commonwealth University Rehabilitation Research and Training Center. At the Center we have promoted a supported work approach to competitive employment for mentally retarded and other developmentally disabled individuals over a six year period.

Method

Participants

The 155 individuals, who served as participants for the three analyses described herein were labeled severely, moderately, and mildly retarded. They were placed in competitive employment by efforts of the staff at the

Rehabilitation Research and Training Center in the Richmond, Norfolk, and Virginia Beach areas of Virginia. The participants ranged in age from 18 to 62. The mean measured intelligence score was 50 with a range of 27 to 78. A total of 86% of these individuals were receiving Supplemental Security Income (SSI) or other government subsidy at the time of placement. Only 18% had earned over $200. in annual salary from sheltered or nonsheltered employment the year prior to placement. Once accepted as a potential candidate, participants were selected for job placement based upon the availability of an appropriate job into which they could be placed and trained.

Intervention

Over the last six years, state and federal grants have supported the direct placement and training of mentally retarded persons in competitive jobs in several predominantly urban locations in Virginia. All participants placed in jobs received at least minimum wage or better from their respective employers from the first day of placement. All have received direct job site training, advocacy, and follow-up services through behaviorally based, individual instruction from a qualified job trainer supplied through the program (Moon, Goodall, Barcus, & Brooke, 1985). This model is known as the supported work model of competitive employment (Wehman & Kregel, 1984).

Settings

The job settings selected for placement activities were limited only by availability of jobs and the willingness of employers. Over 125 companies have hired the participants. These have involved eight different categories of companies. These are food services, janitorial, industrial, non-profit services, commercial businesses, education, health care, and lodging. Company affiliations have included private profit, private non-profit, local government, state government and federal government. The highest percentage of placements

have been accomplished in food service companies and the great majority have been in private, for-profit companies.

Post Hoc Evaluation

The three analyses reported here assess the impact of supported work model intervention in a post hoc design. In that this investigation does not include a control or comparison group, it is not possible to report a cause and effect relationship between the training program and the outcomes. However, since most participants had been considered by related service providers as not ready for competitive employment, had never worked before, and since referral sources were instructed to refer only those individuals who could not work without intensive, long-term job site training, confidence was increased that few participants would have been sustained in competitive employment without supported work services.

Outcome Evaluation at the Systems Level: Benefit Cost Analysis

In applying a benefit-cost analysis procedure to the data of this longitudinal job placement or training program, Thornton's (1984) accounting model was utilized. Within this model we focus on group benefit versus cost data from three perspectives: the society, the taxpayer and the individual participant.

This procedure provides a factual representation of the benefits and the costs from a social perspective rather than individual benefit or predictive-type perspective. That is, the actual monetary benefits and the costs incurred due to intervention from the view of society, the taxpayer and the participant have been identified from permanent records and were included in the benefit-cost analysis. Thus, unlike many benefit-cost analyses which estimate and project possible benefits and costs, this investigation generally provides factual data gathered from clients records and other agencies.

The benefits and costs of the supported work model for 140 clients (in this particular analysis) are listed in Table 1. It can be seen that both the

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benefits and the cost vary depending upon the perspective being examined.

The Benefits

The general benefits of the supported work model include: A) Increased monetary outcomes (earnings, fringe benefit, taxes paid); B) Decreased use of alternative programs (e.g., activity centers/workshops); and C) Decreased government subsidy costs (e.g., SSI, health care costs).

Within this paradigm, society benefits from increased earnings, new fringe benefits to the participant, and decreased cost of alternative programs. The taxpayer receives the greatest monetary benefits from taxes paid, decreased alternate program costs, and decreased government subsidy costs (SSI/Medicaid), and the participant benefits from earnings and fringe benefits.

Costs

Costs of the supported work model also vary from each perspective but the general costs include: A) operational costs of the supported work program; B) minor decreased earnings from workshops the client whould have attended if not employed; C) decreased government subsidy to client; and D) taxes paid by client.

The costs from each perspective are as follows: society and the taxpayer must pay for the supported work model, society also loses the small sheltered workshop earnings the client could have brought in if s/he were attending a workshop. The client, in essence, pays the most, however, in 1) loss of government subsidy (SSI/Medicaid); 2) contribution of taxes and 3) loss of sheltered workshop earnings. It should be obvious that a competitive job would in most

cases make up for these loses.

Benefit-Cost Procedures

The actual moretary benefits and costs for the supported work model for 140 clients over a six year period were identified from permanent records and information supplied by cooperating agencies. The costs incurred were subtracted from the benefits from each perspective to yield three figures showing the ultimate monetary benefit to society, the taxpayer and the participant accrued from the six year supported work model utilized in Virginia. These figures are also shown in Table 1.

Establishment of Benefits

Increased earnings = The gross income was collected for each participant and summed

Fringe Benefits. The U. S. Department of Labor (1980) suggest that 15 to 18 percent of gross wages for low wage earners are paid in fringe benefit compensation. Net income was multiplied by 15% to represent the value of fringe benefits.

Taxes Paid. Participants having increased earnings will pay additional income, payroll, sales, and excise tax. Therefore, such taxes are considered a benefit to all taxpayers. Later, taxes paid will be considered a cost to the individual participant in our analysis. Thornton (1984) suggests estimating increased taxes paid by use of an effective tax rate applied to the estimate of increased net income. Pechman and Okner (1974) estimate this rate to be 23% of gross income for low-wage workers. This figure was used to establish participant taxes paid (1,392.).

Decreased Use of Alternative Programs. A major benefit to the public of employment of severely handicapped persons is the reduction of expensive programming that does not lead directly to competitive remuneration. Adult

activity centers, workshop programs, and public school programs are generally the kinds of services that our participants received or for which they were eligible (Hill and Wehman, 1983). The Virginia Department of Mental Health and Mental Retardation performed a study in 1981 to determine the average cost of day adult service programs. The statewide average was $5258 per client. This figure was divided by 12 and multiplied by the number of months a participant was employed to estimate costs for day programs for which we did not have specific annual budgets. The remaining program client-cost figures were determined by using the most recent annual budgets available. The figure for each program was then divided by 12 (by 10 for public schools) and multiplied by the number of months a participant was employed. The annual budgets utilized were as follows: vocational center, $4091; public schools, $3684; and sheltered workshop, $3738. If a participant was on a waiting list for a day program or was not receiving day support for any reason, financial benefit to taxpayer was not assumed. Thus, only reductions in alternative program cost are considered benefits only for those clients who actually were attending such programs.

Decreased Government Subsidy. Deductions in SSI or other forms of financial aid and decreased health care costs to the government are considered here as benefits to the taxpayers. These decreases in government subsidy; however, are also considered a cost to the individual and are added into the cost formula for client (i.e. the individual's benefits are reduced. This cost to the participant must be considered even though his/her income is far more advantagously affected by the competitive wages received as a result of the program).

Supplemental Security Income. (SSI) Although investigators evaluating the financial benefits of their vocational projects may be temped to simplify savings in SSI disability payments by taking the individual's monthly payment

and multiplying it by the number of months worked, this method will result in an overestimation of benefit. This over-estimation is caused by not taking into consideration the regular, periodic adjustments in SSI regulations, some designed to wean recipients from public assistance. Many other fluctuations can and do occur in the payment of SSI to individuals for a variety of reasons. The SSI payments in our sample were derived by computing actual SSI reductions due to each client's earned income over the period of their employment. Pay raises, periodic SSI inflation rate adjustments, and clients' living arrangements all affect the SSI payment on a month-to-month basis and have been included in each client's SSI savings computations.

Loss of Medicaid. Individuals who have been removed totally from Supplemental Security Income due to substantial gainful activity which at the time of this investigation was considered to be 9 months of employment and at a minimum of $300.+ per month, were not eligible for medicaid except under special qualifications. Participants in our program did not typically meet these qualifications. Consequently these individuals who do not receive health insurance as a fringe benefit and who are not eligible for Medicaid must purchase this coverage. In October, 1984, Blue Cross Blue Shield of Virginia offered single subscriber health coverage for $105.54 per month for participants ages 30-39. The mean age for the sample is 30 years. The number of months participants should have had to purchase health benefits is multiplied by this rate to determine the mean health insurance cost per participant (see below). Concomittantly this amount is subtracted from taxpayers since this same group (if medical costs were static between medicaid and private sector health insurance companies) would not be receiving medicaid benefits. There were 446 months where participants were uncovered by health insurance unless they purchased the insurance themselves, thus the mean participant cost for health

insurance for the 70 months is $336. (446 * 105.54 / 140 = 336).

Establishment of Costs. The total program budget for the 70 months of operation ($767,000) was divided by the 140 participants placed to determine per participant program cost. The mean cost per participant over the 70 months was $5485. The mean months worked for individuals in this sample was 18 months. To determine an annual mean rate per participant per month employed we divided the cost by the mean months worked yielding the monthly rate and multiplied by 12 to get the annual rate (5485/18 = 305 * 12 = $3657).

Decreased workshop earnings. The U. S. Department of Labor (1977) reviewed a large sample of sheltered workshops (600), the mean annual income for workshop workers was $414. A 10% per year increase (to 1981 base date, see section on time related effects for discussion) for inflation was applied bringing the mean monthly income for worksh workers to $48. This often hidden cost was multiplied by the number of months each participant was competitively employed since s/he was prevented from earning this amount during that time. This algorythm was applied to all participants even if they had been rejected by a workshop or were on a waiting list.

Decreased government subsidy-Decreased SSI and government supplied health care costs. The identical figures used on these two variables in the calculations or two variables in the calculations or benefits to the taxpayer (2,342 and $336 respectively) above, were calculated as costs to the individual participant. These figures were derived in the manner described in the Benefits section above.

Taxes paid. The identical figure ($1392.) described above as a benefit to all taxpayers is used in the cost formula as a cost incurred by the individual participant. In any benefit-cost analyses, inflation, discounting, and extrapolation can affect monetary outcome measures. Each must be considered

to determine if there is a significant effect on the outcome values.

Thornton (1984) suggests dealing with inflation by establishing all values from a specified base period. In our algorithim we use constant dollars on shadow values from costs established at approximately the middle of the time range. Fringe benefits and taxes paid were based on percentages of earnings and since earnings were tabulated in current dollars the inflation rate is automatically considered. Government subsidy payments were figured over the enture period and reported in current dollars as were program costs.

When benefits and costs occur in different times a benefit or cost in one time period may be worth more or less in another period even after inflation has been taken into consideration. To deal with this phenomena economists use discounting. However for this sample, discounting was determined to have negligible affect due to the fact that costs and benefits were collected simultaneously and would thus affect only the accuracy of the net value and not the positive versus negative outcome. Since this program is evaluated over a six year period the discounting affects on the net values would be minimal. Finally, extrapolation is not an affect in this model because projections about future costs or outcomes are not made.

Results of Benefit Cost Systems Analysis

The monetary results of this post hoc analysis of outcomes associated with a competitive employment supported work program for persons with moderate and severe disabilities are also presented in Table 1. This table presents the benefits, the costs, and the computed net values from three perspectives: the participant, the taxpayer, and for society as a whole. Per participant benefit was $2078 and $290,920 for the group. The taxpayer benefit was $2851 per participant and $399,140 for the group. Society's benefit as a whole was $5275 per participant and $738,500 for the group. The total wages earned was $869,260.

In order to place these figures into a more meaningful perspective, a mean annual net value was computed. The net society value when divided by the 5.8 years of program operation yields $118,976 per year. The participant's monthly net increase while employed is $109. multiplied by 12 = $1308. per year benefit. The taxpayer's yearly benefit computes to $60,707.

Outcome Evaluation at the Service Delivery Level

There are many ways to evaluate the effectiveness of employment programs for disabled persons at the service delivery level. In the state of Washington, for instance, O'Neill & Associates (1984) are utilizing hourly wages earned and number of hours involved in actual remunerative work for service delivery evaluation. These outcomes have been utililized statewide in critical evaluation of sheltered and nonsheltered employment programs, alike.

An additional evaluative measure used by our (Wehman, Hill, Hill, Brooke, Pendleton, & Britt, in press) employment program and other similar programs (Rusch, in press) several years ago was the calculation of the percent of individuals remaining employed to date. It is important to note that this measure loses its sensitivity with longitudinal programming such as the model described here for several reasons. First, this measure does not serve a longitudinal program well because in many cases employment services may have been delivered successfully to an individual for several years, yet if an individual is not currently employed s/he is not counted as a success. The definition of how long one must be employed to be counted as a success is not well defined in this relatively new service delivery system.

Secondly, and perhaps more importantly, this measure of total percent of participants remaining employed does not accurately represent a gradually expanding program such as that of the Rehabilitation Research and Training Center. The number of participants involved in the program has increased slowly

each year as new referrals were accepted and job placement caseloads for trainers were increased. Naturally, the program has expanded greatly in the last several years, and many more participants had been placed in jobs during these latter years than in the early years. Therefore, if we stated that 55 percent of all the people we have ever worked with are still employed, it is possible most of these could have been placed in the last year only. With gradually increasing and decreasing caseloads it is more difficult to provide accurate outcome evaluation with group data of participants being served by an employment program.

In our program model, we have found two critical factors which, if included in the outcome analysis, greatly enhances the accuracy of our service delivery outcome evaluation. These are:

A) Total time (months) each participant was maintained in competitive employment in a calendar year (i.e., cumulative time on payroll in job(s).

B) Actual time (months) each participant could have worked in the labor market based on date of entry into that market in that same calendar year.

These factors, A & B, can be used in the following formula to establish a Annual Program Efficiency Index (PEI). This index represents modification of an employment index described by Halpern (1973).

$$\frac{A}{B} = \text{Annual P.E.I.}$$

Through this formula we are able to establish a useful index of program efficiency showing the percentage of time that the program is able to maintain participants in competitive employment given the actual amount of time that they could have worked in the labor market within a one year period.

The first factor in the formula, total time each individual was in

competitive employment, is important because in the 1980's we now are interested in placement duration and less interested in simply counting the number of 60 day placements we are able to make. We are more appropriately concerned with how long these individuals can successfully remain in competitive employment. Further, our interest extends beyond any one particular placement. Instead, in that, the supported work model supplies follow-up and replacement services if necessary, our service delivery system must evaluate its effectiveness through total retention in competitive employment not just one job.

The second factor in this formula (actual time in labor market within calendar year) is also critical for the accuracy of our evaluation model in order that the program is not penalized for its gradually expanding nature. That is, clients are added to caseloads at different points in time because job trainers cannot place 10-20 clients at the same time. However, to evaluate the effectiveness of service delivery to clients with whom the program is actively involved, only the amount of time that they actually could have worked in the labor market should be considered in the formula - not the beginning date of the program itself or the beginning date of each year if the client is not accepted until, for example, mid-year.

Both factors of the formula are examined within the parameters of a calendar year (12 months) rather than the total history of the project. The reason for this is twofold. First, in that most human service organizations examine program activities on an annual basis rather than through the presentation of on-going success summaries, we have translated these data into annual progress units for comparative purposes. Secondly, and most importantly, the nature of job placement activities in high turn-over areas of employment does not lend itself well to evaluation through summaries of on-going success. This is largely because it is not reasonable to expect placements in entry level

employment to continue indefinitely. For instance, if one of our clients had been maintained in competitive employment for the entire year of 1979 yet lost his/her job in 1980, on-going success summaries would show that the individual had only worked one-fifth of the project's history. Ostensibly, this would not be a highly successful placement. This type of summary would mask what, in reality, was a most successful placement of 12 months with an individual who most probably had never worked before. In essence, the annual program efficiendy index provides more accurate evaluative data in that the long-term nature of the project does not expunge the successes of shorter-term placements.

Employment dates and retention records within our computerized data bank from 155 clients placed in competitive employment from January 1979 to October 1984 were subjected to the above formula (in 1978 the program operated only three months). As stated above, each year was treated as a separate study period. That is, only clients who were actively involved in the program during a given year were included in the analyses for that year. Thus, only clients who were added to a caseload during a given year or clients who were already employed as of January 1 of that same year and were receiving follow-up services were included in the calculations for annual program indices. To illustrate further, a client who lost his/her job in 1979 and was never replaced to date is not included in the analyses for subsequent program years. In that the program did not actively work with that client in those subsequent years, s/he is not included in estimates of program efficiency for subsequent years. A total program efficiency index is also given for summary purposes and represents the mean of the yearly indexes.

Results of Service Delivery Evaluation

Table 2 shows the program efficiency index each individual program year.

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Insert Table 2 about here
- - - - - - - - - - - - - - - - -

The numbers of individuals served during each of these study periods is also given. Annual program efficiency indices range from a low of 76% in 1981 to a high of 91% in 1979, the first year of the program. In the first few years of the Reagan administration as unemployment rates rose, our program efficiency indices showed decreases. For instance, in 1980, the program efficiency index is 10% less than 1979, the 1981 index is 15% less than in 1979 and the 1982 index is 13% less than 1979. The last two years of the President's administration, however, 1983 and 1984, our service delivery efficiency has shown a sharp rise to 85% and 83%, respectively. The program efficiency index is a useful measure which shows the percent of each year that clients on the average were maintained in competitive employment adjusted for when they actually entered the labor force that calendar year. Therefore, in 1983 and 1984, clients were unemployed only about 15% of the year after they actually entered competitive employment and were still actively involved with the supported work model.

Outcome Evaluation at the Participant Level

The most apparent positive outcomes of supported work services are received by the individual participant. These include quantitative outcomes such as net monetary gain, hours worked, and development of work histories among many others. Supported employment services also greatly impact on the quality of life for these individuals. Over the last six years, this program has anecdotally documented remarkable changes in the participant behaviors, appearance, and even health after being placed and maintained in competitive employment for a sustained period. Unfortunately, until the program was funded as a Research and Training Center in 1983 we did not have the financial capabilities to study

these phenomena in a controlled manner. At present, however, we are involved in a carefully controlled, classical experimental (competitively employed persons) versus control group (sheltered workshop employees) study examining pre-and post-employment behavior, performance and scores on seven "quality of life" measures. We are currently involved in the first wave of post-testing; reports should be available on preliminary results within one year. The seven measures include estimates on:

- Health
- Appearance
- Social Interactions
- Adaptive Behavior Scores
- Speech and Language
- Independence at Home
- Integration Into the Community

Many other quantitative outcome measures sensitive to the impact of supported employment can be tapped from this program's extensive longitudinal tracking system. For instance, from pre- and post- employment records, we find that there is a 52% increase in independent use of public transportation after a minimum of three months after employment. We also find nearly a 10% increase in participants moving into less dependent residential situations either from the family home to a group home or from a group home to semi-independent or independent living.

In this preliminary investigation we are reporting the outcome of the mean length of job retention for the average participant in his/her first year in the labor market. We believe this is an easily understood unit of quantitative data regarding the impact of supported work services with our client population. It is an outcome which quantifies the development of a work history for persons previously not considered "ready" for competitive employment.

Results of Outcome Evaluation at Individual Participant Level

Over the six years of this program, the average time employed for all clients is calculated at 565 days or approximately 19 months. Obviously, this figure is difficult to interpret in that some clients have been involved with

the program for six years and some only six days. Therefore, the figure showing the outcome of employment retention in the first year in the job market given below enhances the interpretation of these group data. Descriptive statistics show that the average time employed in the first year in the labor market for this population of mentally retarded individuals who generally were labeled as not unemployable was 8.1 months.

Number of Days Worked in First Year in Labor Market
N = 135

Mean Days worked first year after date of hire: 240.85	Range: 14 to 365 Median: 277 Mode: 365

Summary

Monetary and nonmonetary outcomes in a systems approach to program evaluation have been described for the supported work model to competitive employment. From a systems level, a service delivery level, and a participant level highly positive outcomes have been shown to acrue based upon the implementation of this model. What is lacking in this analysis is, of course, a comparison group to establish a cause and effect relationship. However, the outcome measures were described in a detailed manner in order that these analyses could be replicated with other programs for internal comparison purposes. Future research from the Virginia Commonwealth University, Rehabilitation Research and Training Center, will include such analyses.

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TABLE 1

MONETARY OUTCOMES ASSOCIATED WITH A COMPETITIVE EMPLOYMENT SUPPORTED WORK PROGRAM FOR PERSONS LABELED MENTALLY RETARDED[1]

(Rehabilitation Research and Training Center)
(Virginia Commonwealth University)
May 1978 - Feb. 1984

N = 140

	Societal	Particiant	Taxpayer
1. Benefits			
A. Increased Monetary Output			
1. increased earnings	$ 6209	$ 6209	___
2. fringe benefits	803	803	___
3. taxes paid/collected	___	___	1392
B. Decreased Use of Alternative Programs	4266		4266
C. Decreased Government Subsidy			
1. decreased SSI	___	___	2342
2. decreased health costs	___	___	336
SUBTOTAL	11278	7012	8336
2. Costs			
D. Operational Costs	-5485		-5485
E. Decreased workshop earnings	-864	-864	___
F. Decreased Subsidy			
1. loss of SSI	___	-2342	___
2. increased health costs	___	-336	___
G. Taxes Paid	___	-1392	___
COST TOTAL	-6349	-4934	-5485
TOTAL BENEFIT	11278	7012	8336
- TOTAL COST	-6349	-4934	-5485
= PER PARTICIPANT NET VALUE AFTER 70 MONTHS OF OPERATION	+4929	+2078*	+2851
GROUP VALUE (N = 140)	690,060	290,920	399,140
YEARLY BENEFIT BREAKDOWN	118,976	1308** per participant	60,706

*Mean Months Employed for Study Population = 19 months
**(Net Participant Value / Mean Months Employed X 12 Months = Yearly Per Participant Net Value)

[1] We are indebted to Dr. Craig Thornton for his help and previous work in conceptualizing this Benefit/Cost model.

Table 2

Program Efficiency Index (PEI) For Total Duration of Employment Program and by Individual Years

Study Periods	Number of Participants	PEI
1979	32	90.5%
1980	48	81.5%
1981	69	75.9%
1982	78	77.8%
1983	96	84.4%
1984	110	82.7%
1979-1984	155	82.1%

Program Efficiency Index = Percentage of time that participants were maintained in employment out of total possible time in labor market.

TIME LIMITED TRAINING AND SUPPORTED EMPLOYMENT: A MODEL FOR REDISTRIBUTING EXISTING RESOURCES FOR PERSONS WITH SEVERE DISABILITIES

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Abstract

A model for improving employment services to persons who are severely disabled utilizing existing state and local financial and personnel resources is described. The model services are based upon the supported work model of competitive employment used successfully with severely disabled persons from 1978 to 1985 in the State of Virginia. These services include job placement, direct job site training and advocacy, on-going assessment and extensive follow-along services if and when needed. The paper advocates the use of this model in any location utilizing time-limited funds and services of the vocational rehabilitation department for the initial intensive training to job stabilization. The provision of the critical long-term follow-along services would then be shifted to state and local agencies such as Developmental Disabilities, Mental Retardation Services, Social Services, and private organizations.

Time Limited Training and Supported Employment: A Model For Redistributing Existing Resources For Persons With Severe Disabilities

Supported employment is receiving major attention from federal authorities in the Office of Special Education and Rehabilitative Services at the U. S. Deptartment of Education (Will, 1984a) and also at the U. S. Department of Health and Human Services, Administration on Developmental Disabilities (Elder, 1984). Supported employment has been described as:

> "paid work in a variety of settings, particularly regular work sites, especially designed for handicapped individuals (i) for whom competitive employment at or above the minimum wage is unlikely; and (ii) who, because of their disability, need intensive, on-going support to perform in a work setting" (Federal Register, 1984).

Supported employment services have evolved in order to meet the needs of the thousands of severely disabled persons who have not received employment services or who have been considered to be "too hard to place or train". Generally, supported employment is targeted for those with moderate, severe, or profound mental retardation, multihandicapping conditions, autism, and the other very difficult handicapping conditions.

Time limited employment services (Will, 1984b) have been rehabilitation's traditional response to helping individuals with handicaps receive services. Time limited employment has distinct beginning and ending points; unlike supported employment, time-limited services are not on-going throughout the individual's employment tenure.

The supported employment services described in this paper are based upon a philosophy which holds that the disabled individual's <u>total independence from habilitation providers service is not necessary for successful, long-term employment</u>. That is, society and the disabled individual still benefit from

employment (e.g., wages, reduced dependence on government aide, more normalized life, etc.) regardless of whether the disabled individual receives supportive services from public or private agencies. It will be shown further that this traditional view of "total independence" in the individual's employment situation is in large part responsible for the exclusion from employment habilitation services of severely disabled persons who might be enabled to work productively and earn decent wages. Our work at the Virginia Commonwealth University Rehabilitation Research and Training Center (RRTC) demonstrates the substantial success which traditionally unemployed severely disabled mentally retarded persons have had in competitive employment when supported work services are provided (Wehman, Hill, M., Hill, J., Brooke, Pendleton, & Britt, in press; Hill, J., Hill, M., Banks, Wehman, and Goodall, 1985).

A critical aspect involved in promoting supported employment services nationwide is the lack of a suitable funding mechanism (Revell, Wehman, and Arnold, 1984). Traditionally, vocational rehabilitation (VR) agencies have purchased time limited services for individuals who are expected to be totally independent in employment after a reasonably short period on the job. Furthermore, pre-employment services have been purchased which purportedly lead up to employment, but in too many circumstances do not. Rarely have rehabilitative services been purchased which immediately result in paid, unsubsidized employment for persons who are significantly retarded. The distinction between the traditional purchase of pre-employment services and the use of VR funds to purchase employment services under the supported work model is critical.

We believe that VR agencies need to take a leadership role in altering how funding is provided for supported employment services. We also believe that cooperative interagency efforts are essential through the time-limited (or transitional) services of rehabilitative service agencies and the long-term

service and financing capabilities of public and private agencies. These agencies include Departments of Mental Health and Mental Retardation, Developmental Disabilities, Social Services, and private organizations, and for school-age individuals, the public school system.

A strategy for cooperative funding through the use of these varied resources includes two primary components.

1) The use of vocational rehabilitation's financial resources for "time limited or transitional services" to fund initial training and stabilizing efforts for a client in a competitive job; and
2) The funding of supported employment services or long-term follow-up by state and local public or private agencies (i.e., the agencies currently expending funds for adult day care work adjustment, or sheltered work stations).

It should be noted that we are emphasizing the use of existing resources, i.e., redirecting funds from uses that produce lesser outcomes to those which yield greater outcomes. The case for reallocating funds will be developed in four sections. First, the problems of the traditional vocational service delivery system will be discussed and documented. Second, an improved, modernized service system will be described. Third, implementation guidelines within the existing constraints of resources and funding authority will be given. Fourth, specific service provision funding issues will be addressed.

Statement of the Problem

Sheltered Employment

According to the President's Committee on Employment of the Handicapped in 1974 six to seven million disabled persons were unemployed yet could benefit from employment programs. More recently a U. S. Commission on Civil Rights in 1983

estimated that between 50 and 75 percent of disabled persons are unemployed. There are 5700 sheltered workshops nationally which attempt to meet the needs of "unemployed' disabled persons. A large number of these persons are mentally retarded (Whitehead, 1979). Day activity centers often function as an overflow system for the sheltered workshop (Will, 1984a).

The U. S. Department of Labor (1979) reviewed a large sample of sheltered workshops (600). A 251% increase in the client population of certified sheltered workshops from 1968 to 1977 was reported. This increase documents the vocational habilitation systems increasing reliance on the sheltered workshop as the primary employment service provider for certain disabled persons. Since sheltered workshops have traditionally served as the principal source of employment for severely disabled mentally retarded persons, it stands less as an employment option than it is a pre-destined track for them.

Fortunately, programs designed to serve disabled persons are receiving more critical evaluation. Several studies of sheltered programs indicate that there are significant problems in meeting the needs of persons with severe disabilities which vary from workshop to workshop. For example, in the same U. S. Department of Labor study, only 12% of regular program workshop clients were placed into competitive employment (this includes placement rates only; retention rates are not given); hourly wages increased only 9% in 5 years, and the average hourly wage for all mentally retarded clients was $.58 per hour. These data support the contention that severely disabled individuals are not receiving full opportunities for remunerative employment when employed in traditional segregated settings.

It is not constructive to blame the sheltered workshop for the lack of client movement into competitive employment. The operational problems that sheltered workshops face in competitive employment initiatives are numerous.

Some of these problems are listed below:

1. There is no clearcut national policy statement for promoting competitive and supported employment for all severely disabled persons.

2. Financial support from referring agencies is not provided for competitive job placements.

3. Financial support is not provided for direct job site training in natural job environments which most clients would require to succeed.

4. Monetary support is not provided for follow-along job maintenance.

5. Rehabilitation personnel training programs have not provided the training technology to help workshop staff improve their skills for suppported and competitive employment outcomes.

Current Rehabilitative Services

Sheltered workshops and the accompanying overflow programs often called adult activity centers frequently serve as long-term holding tanks for a "difficult to place" group of individuals. It is becoming more evident that vocational rehabilitation agencies are not adequately serving this group (Whitehead, 1979). Studies by the U.S. Department of Labor (1979) have identified wide service gaps for severely disabled persons. Most states are experiencing little success in moving severely disabled mentally retarded individuals into competitive employment. Other 'severely disabled' populations are also experiencing significant difficulties in competitive employment (President's Committee on Employment of the Handicapped, 1974). In 1983, the Virginia Department of Rehabilitative Services (DRS), the state VR agency, was examined by the Virginia Department of Management Analysis and Systems Development (MASD). Excerpts from the MASD Report on DRS delineate some of these difficulties being experienced by a VR agency in providing employment oriented services to persons with moderate and severe retardation:

> ...Lack of service to moderately and severely mentally retarded is cited as a problem by mental retardation counselors, clients, representatives of advocate groups and of the State Department

> of Education, special education program. Job placement for the lower functioning mentally retarded client, in the form of intensive on-the-job assistance for those who need this service ... [is advisable].
>
> ...Intensive [follow-up] on-the-job assistance is another apparent need for mentally disabled clients who have been placed in full time jobs in a sometimes stressful environment. Moderately and severely retarded persons make up the largest client group in state/sponsored sheltered workshops. Because of a low success rate in keeping them on jobs with conventional follow-along techniques, long-term sheltered employment has become accepted as a way to keep the clients occupied in a non-residential setting. However, at least two major projects in Virginia have shown that it is possible to place some moderately retarded individuals in competitive jobs. Therefore, unless practices are changed, DRS counselors will continue to find many moderately and severely mentally retarded too severe to benefit from the VR program, in terms of employability.

Not only does vocational rehabilitation have difficulty placing persons who are severely disabled in jobs but the traditional system of case closure, typically 60 days after placement, precludes essential follow-up services to clients and employers. Model job placement programs of persons who are mentally retarded around the country are now showing that it is comparatively simple to place severely disabled persons in competitive jobs (e.g., Bates & Panscofar, 1984; Rusch, in press; O'Neill & Asscciates, 1984; Wehman, Hill, M., Hill, J., Brooke, Pendleton, & Britt, 1984). The most challenging part is keeping them in

their jobs for sustained periods of time. Thus, unfortunately, our current vocational rehabilitation system discontinues services just when most severely disabled persons need them most. The rationale for 60 day closure is, of course, derived from rehabilitative practices with less severely disabled groups who tend to achieve job independence within short periods of time. Naturally, because vocational rehabilitation departments have not traditionally provided extended on-site training to severely disabled persons, these agencies have little data with which to base re-evaluation of the 60 day criterion for this new service population.

The Virginia Department of Rehabilitative Services recognized this need for alternative services leading to competitive employment for severely disabled persons. In 1978, with innovation and expansion monies from the federal government, the state rehabilitation department funded 'Project Employability'. This project implemented by Virginia Commonwealth University (VCU) demonstrated the success of supported competitive employment for the severely disabled/mentally retarded population (Wehman, Hill, & Koehler, 1979). Recently the National Institute of Handicapped Research (NIHR) established a Rehabilitation and Research Center at VCU in May 1983. In July of 1984 the RRTC was approved as a vendor to the Department of Rehabilitative Services for Transitional (time limited) community and job based training services. Follow up and maintenance support has been established by two local community service boards which derive most of their financial support from the Virginia Department of Mental Health and Mental Retardation. Many of the alternative strategies of programming and funding discussed here are derived from longitudinal data and experience with competitively employed persons with mental retardation in Virginia.

In summary, the blame for high unemployment rates and poor wages of severely disabled persons certainly cannot and should not be attributed to any one agency.

Furthermore, it is questionable whether we can expect single agencies to possess the capacity to fully serve the diverse group of individuals with all disabilities, mild and severe. An improved system of cooperative, interagency services aimed at improving the employment rates of persons who are severely disabled is described below.

Effective Employment Services

A supported work model of competitive employment such as the one used by Project Employability and the current program at the Rehabilitation Research and Training Center at Virginia Commonwealth University, provide the basic framework for the modernization of vocational rehabilitative services needed for severely disabled pesons. Other exemplary programs around the country have been involved in similar activities over the last decade to examine the vocational needs of persons who are more severely disabled (Paine, Bellamy, & Wilcox, 1984; Kiernan & Stark, in press; Rusch, in press; Wehman, 1981). Most of these programs would agree that there are at least four components to effective vocational intervention for persons who are more severely disabled. These are: 1) direct job placement through careful job/client compatibility analyses; 2) direct job site training and advocacy; 3) on-going assessment and intervention until the individual is well entrenched; and 4) follow-up services as needed for job retention, re-placement, etc. Some model programs also include an extensive pre-job training component as integral to the model (Rusch, in press).

Traditional rehabilitative services have generally included only job placement, the first component of the supported work model, which as previously mentioned, is comparatively the easiest component of the four to complete. Another key difference between time limited and supported work, and traditional rehabilitation efforts is the intensive daily 1:1 contact between the client and a

qualified job trainer followed by gradual reductions of assistance as the individual becomes more competent and well accepted in the job.

It should also be obvious that other state and local human service agencies or private agencies do not, traditionally, provide any of the components to the model. Instead, such agencies spend time, money, and energies on "getting individuals ready" for the first step, i.e., job placement. In contrast, the supported work model of competitive employment infers that the bulk of programmatic efforts will be required after the job placement, not before.

Clear descriptions of this model have been described elsewhere (e.g., Wehman & Kregel, in press); therefore, each component will be briefly discussed below.

1. Job placement through job/client compatibility analysis. Appropriate-job placement is based upon an accurate assessment of the job requirements, the client's skill and abilities, and the compatibility of each to the other. The exact requirements of the job and personality characteristics of the coworkers should be compared to skill levels and behavioral aspects of the client in a one to one correspondence. Systematically planning for job to client compatibility significantly enhances the chances for job success.

Other important aspects of placement is that the job trainer participates in meeting initial transportation needs, explains the impact of income transfer benefit reductions, assists in job interviews, and other critical factors. Traditional placement procedures often assume that it is the client's or caretaker's responsibility to deal with these concerns. Our experience shows, however, that without intensive assistance in these areas persons with severe disabilities do not achieve job placement.

2. Direct job site training and advocacy. Job-site training is not a new concept; however, few models provide active trainer involvement in the early phases of the placement and then on a gradually decreasing basis as in this model.

Usually the already too-busy employer must act as a trainer (as in the traditional vocational rehabilitation on-the-job training program). Unfortunately, this results too often in little or no organized training. Data from the supported work model indicate that it is essential to train both specific skills and adjustment to the work environment beginning at the point of placement. This involves training skills using behavioral techniques as well as providing extensive advocacy services on the behalf of the client with his/her coworkers.

3. On-going assessment and intervention. The third component of the model, on-going assessment and intervention, marks another major difference between the supported work model and more traditional models of rehabilitation. In traditional approaches, a counselor places a client and then periodically checks with the employer. This type of assessment, however, is insufficient for many persons with severe disabilities who need on-going assessment and intervention for success. Adjustments in the individual's job or training must be based upon data, not on subjective decision-making.

4. Follow-up services. With the supported work model, follow-up services can include regular on-site visits to employers, phone calls, periodic reviews of supervisor evaluations, client progress reports and parent evaluations. Since retarded persons are frequently at risk of losing their jobs in competitive environments with little notice, follow-up support is imperative. This strategy has been viewed by some as being too expensive, but benefit-cost analyses of the outcomes of using this model clearly refute this notion (Hill and Wehman, 1983; Hill, M., Hill, J., & Wehman, 1985).

It is important to note that with some clients this phase of service may include only semi-annual phone calls to the client or the employer. In contrast a few clients may require extensive assistance on a regular daily basis. The

intensity of this phase is based upon the client's and the employer's needs to meet the job requirements. While this too may appear on the surface to be too expensive, recent data indicate that in a majority of cases such services cost the same or less than an activities center or sheltered workshop placement (Hill and Wehman, 1983). This appears true even when daily interactions are provided with the client directly on the job site. While in competitive employment, the individual experiences the benefits of a more normalized life and becomes a contributing taxpayer.

Intensity and Duration of These Components

Figure 1 depicts these services and shows that all clients receive the same

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Insert Figure 1 about here
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intensity of services on the first three components of the model (i.e., job placement, training and advocacy, and on-going assessment/intervention). It also shows that these three components are time-limited (i.e., there is an anticipated beginning and ending date). The fourth component of this model, follow up services, in essence is supported employment (i.e., the individual is competitively employed, however he/she is receiving follow-up support services). Figure 1 shows that this phase is not time-limited in that there are no limits on how long the service should be provided except as dictated by client need. Figure 1 also illustrates the varying intensity in follow-up services, ranging from infrequent to daily interactions with an individual based, again, upon need. The ultimate goal is always sustained employment, not total reduction of services.

Implementation Guidelines: Funding Time Limited and Supported Employment Through Existing Resources

A supported work approach to competitive employment will require redistribution and reallocation of currently existing funds. A portion of the monies currently going into segregated settings for vocational training and work adjustment will need to be redistributed to direct placement, job site training and behavioral asessment in nonsegregated employment settings.

Interagency participation will be necessary to provide the long term follow-up services of the supported employment phase in community job settings. These long-term support services could be funded through agencies which normally fund day activity-type programs and sheltered employment. These organizations vary from state to state and may include mental health/mental retardation agencies, agencies for the developmentally disabled, Social Services, as well as private organizations.

Time-limited Services

Using the improved employment services model described above, in the time limited category, the rehabilitation agency would use case service dollars to support the first three components of the supported work model, i.e., direct job placement by a job coach, job training and advocacy, on-going assessment and intervention until the client is firmly entrenched in the job. In this model money spent on work adjustment would be used in nonsegregated environments. We stress once more that sheltered workshops should not be blamed for currently accepting referrals from rehabilitation counselors, and the rehabilitation counselor, having so few vendor alternatives to choose from, also cannot be blamed for selecting segregated work adjustment programs. However, if given a wider variety of alternative programming options, it stands to reason that fewer inappropriate work adjustment placements would be made.

This proposed model requires the state rehabilitation agency to provide the initial job site training until the support required for job maintenance levels off and becomes static, i.e., the individual is stable in the job. State rehabilitation agencies can finance this in three ways. The first is to provide the service with their own staff, the second is by vendor fee for services rendered, and third is by providing a block grant for the service. It should be noted that all three financial mechanisms could be utilized in varying degrees, dependent on local support agency configuration.

Each method will require extensive rehabilitation counselor involvement. The rehabilitation counselor must take the lead in insuring services for job placement, initial training, and intervention toward client-to-job stabilization. Although such a program tends to be extended, it is still time limited. That is, once a participant stabilizes at a consistent level of staff intervention time he/she would be considered non-transitional and the case would be closed. Post-employment services could be used for temporary increased intervention needs such as a position being redefined where retraining is required. Re-opening a case would be no different than for other rehabilitation clients. For example, a participant who becomes unemployed may need additional placement and transitional training at the new job site. It is important to note that the case is only closed with respect to transitional employment. Follow-up and maintenance services would continue under what the federal government is now calling 'Supported Employment'. These long-term services would not, however, be funded by vocational rehabilitation agencies.

Supported Employment (Follow-Up Services)

Key to the success of competitive employment is the long-term follow-up provided subsequently in the supported employment phase. It is at this point that interagency cooperation is imperative.

Public and private agencies which provide the funding for day activity programs and workshops currently supply long-term follow-up services to disabled persons attending such programs. Although these services are usually restricted to segregated settings, such agencies have a clear precident for funding long term follow-up services and could well apply the funding to extended support services in competitive community job settings.

Once rehabilitation agencies withdraw at the end of the time-limted services phase, state and local agencies could provide the long-term follow-up support essential to the success of the model. Again, these services can range from extensive and on-going, to only minimal interventions, depending on the client. In any case, individuals requiring a high degree of follow-up would be attending a day program if they were not employed. What is proposed here is that funds for day programming or a portion of these monies may be used in maintenance of these new taxpayers in integrated employment settings. Based on findings of Hill, M., Hill, J., & Wehman (1985) many persons with severe disabilities would require significantly fewer tax dollars for support when being served in community job settings through the supported work model instead of day centers.

This is, indeed, the national trend. Developmental disability programs Mental Health/Mental Retardation Departments, and Social Service agencies are being prompted to redesign their service structure to accomodate the new federal initiative to provide supported employment services (Federal Register, 1984).

Existing program funding constraints of individual agencies are such that an interagency funding mechanism is essential for the on-going success of the supported employment model and, ultimately, for the continued success of clients maintaining competitive employment. State and local agencies and foundations are the most appropriate funding sources for these services, but they must change their thinking about how to utilize existing funds for better employment outcomes.

These agencies could themselves provide the service or contract with appropriate venders.

In summary, the role of the rehabilitation agencies is to initiate appropriate services to clients in the initial phases of employment. Once an individual reaches a maintenance or follow-up level, additional follow-up support is provided by appropriate state and local human service agencies.

Rehabilitation Counselor and Local Case Management Interaction.

Staffing for potential consumers of these services could include a consumer/client advocate, the rehabilitation counselor, personnel representing the agency providing follow-up and maintenance, and any potential vendor of employment services. Representatives of the various organizations would orchestrate the transfer of service and/or financing responsibilities among agencies based upon a formal cooperative agreement.

The follow-up and maintenance agency would be kept aware of the individual client's job placement and progress. Ample prior notice would be given of the anticipated date of the termination of time limited services. All parties would agree to the date of transfer from time limited to supported employment services.

The key person in the initial success of this model is the rehabilitation counselor. The counselor must decide whether to purchase services for a given client, the intensity of services, and when to fade job coach services. These decisions will be based on the best evaluation data at his/her disposal. To assist the case managers in these difficult decisions certain evaluative data should be provided by the placement and training agents. These may include written evaluations by employers, reports on amount of intervention time needed, data from direct observational assessment, reports of any incidents on the job site, client progress data on skill development, etc. Table 1 describes these types of data in more detail.

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Insert Table 1 about here
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Funding of Time Limited and Supported Employment

In the RRTC model, changes in a participant's status from time-limited services to supported employment are based on the ratio of staff intervention time needed to the number of hours worked by the individual. When the intervention time required to maintain persons in their positions is in a process of change from intensive to a stabilized amount of time, we would construe this to be part of the time-limited service component. Once the intervention time stabilizes for a significant period (e.g., 60 days), we would construe this to be entry into the supported employment phase which requires less direct service but is still essential for success. This would be the dividing line for the funding of the individual client by responsible agencies and for transfer from the rehabilitation agencies time-limited services to state and local agencies for long-term follow-up services.

Figure 2 represents an illustrative process for these interagency cooperative efforts. It is important to note that the case presented in Figure 2 is for

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illustration purposes only. Cooperative agreements drawn up among agencies attempting to implement this model would develop their own specific guidelines for funding. In our model, initial training is considered over when the intervention time required to maintain the individual in the job falls below 33% of the individual's working hours for two consecutive weeks. Vocational Rehabilitation funding for this activity would fall under status 18. This criterion is based upon longitudinal data tracking of the intervention time and training patterns for clients who were successfully retained in jobs for at least six

months after the intensive training was reduced. The next phase, the fading period is considered over when the average intervention time falls below 20% of the individual's working hours for a two week period. Rehabilitation funding for this phase and the stabilization phase is under status 22 (employed yet still requiring service). The third phase depicted in Figure 2, stabilization, is considered over if the intervention time is no longer required for the participant's continued employment or for more severely disabled individuals, when intervention time does not radically fluctuate (more than 20% for 60 days). It is suggested that a successful rehabilitation closure is appropriate at the end of the stabilization period given a interagency team decision and based upon the recommendations from the rehabilitation counselor.

The final phase of this model (i.e., follow-up services through supported employment) is equally as critical for the success of the individual. It is this retention phase which traditionally has not been provided and has contributed to our inadequate current service system. This undersupported phase is the least expensive in terms of staff time and the most productive in terms of job retention. Services in this phase may continue indefinitely based upon the client's need. Funding for this phase could be provided by agencies like the Department of Mental Health and Mental Retardation, Developmental Disability agencies and any other organization which typically support on-going day programs.

Noble, (1984) suggests that agencies which benefit monetarily from employment services being rendered to their client should contribute to the financing of the instrumental services. The Social Security Administration for example, could reallocate a portion of the funds recovered, from reduced transfer payments for Supplemental Security Income recipients as a result of greater employment, to supported employment service agencies. In effect, this means investing in programs whose benefits exceed the cost of providing the service. The validity of this

approach is documented by recent benefit cost analyses of transitional and supported work employment programs (Hill, M., Hill, J., & Wehman, 1985).

Rate Setting Structure

An appropriate method of monitoring services provided by a community based service provider must be established, especially if the private vendor model is utilized. Because community based operations are dependent on the employer's willingness to allow training 'on site' and since usually only one client can be trained at a time, an alternative to the traditional 'daily rate' payment structure is required. One way of dealing with this is to provide a block grant for the job coach team, another way would entail reimbursement after intervention time is provided for the client.

Block funding can be used to initiate placement and job training teams and then be shifted to the reimbursement method once the team is established. One of the benefits of this system is that funds follow the client according to their level of need. Those individuals with minimal barriers then are not unnecessarily held back by a 'lack of funds'.

In setting a rate for the service all staff support costs should be included. That is, the intervention time rate would include a portion for personnel expense as well as for travel, supplies, office space, telephone, and administrative and clerical support. The non-personnel expenses will be minimal due to the fact that all services are provided in a community setting, where costs for maintaining the 'facility' are born by the employer. Additionally, an hourly rate accounting system is easily facilitated due to the 1 to 1 nature of the service system.

Intervention Time As A Basis For Fee For Service

Table 2 shows categorical descriptions of varying uses of staff intervention time. It is important to differentiate some of the responsibilities of trainers for rate setting purposes. Various funding sources may agree to fund some

activities and not others. However, the number of hours for payment would be the sum of all intervention time provided.

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Since clients do not attend a standard 'day' program the mode of payment should be based on the services provided each client in hours as opposed to days. To establish an equitable hourly rate all staff support costs would be considered. Table 3 is an hourly rate breakdown based on staff intervention time and itemizes the costs associated with providing community based employment training personnel. This model could be used by any organization which provides one to one service to consumers.

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A block or reimbursement method of monetary support would use this hourly monitoring system to account for consumer intervention needs. In the block format the number of hours needed would be deducted from the initial total ($10,000, for example, in block monies would be equivalent to 426.62 intervention hours; $10,000 /$23.44 per hr. rate = 426.62 intervention hours). The vendor would bill after the fact in the reimbursement method. Each individual community would have to establish the most acceptable format for payment.

To estimate agency average costs for each phase the rate ($23.44) would be multiplied by the mean hours utilized in each phase as exampled by Project Employability data in Figure 2. The mean intervention time for each phase is based on intervention provided for 147 client's by the RRTC and Project Employability, intervention time can be expected to differ according to the local employment situation, the number of hours per week the client works, and on the compatibility levels of person to job.

Table 4 presents cost estimates for each phase of the model by multiplying the mean hours of intervention (RRTC and Project Employability) for each phase by the estimated rate ($23.44). The rate may also differ dependent on local costs.

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Insert Table 4 about here
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The costs estimated above are not extraordinary, in fact, in most cases greater funds per client are expended on alternative programs with far less beneficial outcomes (Hill, M., Hill, J., and Wehman, 1985).

Regardless of the cost and service accounting method it is recommended that an evaluation and initial training period be authorized to allow for immediate placement should an appropriate position be identified. A minimum of eighty-four hours of intervention time are suggested as appropriate to provide for the participant's screening and full time intervention coverage at the job site for the critical first two weeks on the job.

Following the initial authorization an agreed upon monthly projection for future intervention time would be established by the agency case manager and the vendor, these projections would be based on progress information gleaned from training activities at the job site. The current case manager would authorize funds for service up to this projected level of needed service. Individual client requirements will fluctuate, however, great variation can be monitored by the authorization procedure. Re-authorization would be negotiated at regular intervals. Additionally an authorization procedure would guarantee case manager interaction.

Estimating per client expense must take into account the success associated with continued job retention. Intervention hours can only be accumulated for clients continuing to work successfully. The significance of this is that funds for supported employment can only be spent on successful endeavors.

Establishing the appropriate amount for block funded time-limited and supported employment services can be done by calculating the annual per job coach staff costs. This is facilitated by multiplying the projected total annual staff intervention hours by the hourly rate ($23.44 per hr. * 1288 staff annual intervention hours (Hill, 1984) = $30,216. per direct service staff). In determining a block annual amount, multiply the number of direct service staff needed by the annual staff cost. It should be emphasized here that this figure includes all support costs from supervision, to travel, to office supplies, etc..

Table 5 following depicts a process for establishing time-limited (transitional) and supported work job coach teams utilizing existing state and local resources.

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Insert Table 5 about here

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Summary

This paper reviews problems associated with the current vocational habilitation system for severely disabled persons and recommends the implementation of more effective employment services for persons who are severely disabled similar to those being examined in the State of Virginia. Emphasis has been placed on interagency cooperation and redistribution of existing resources to implement time limited and supported work employment services.

The key factors in improving employment services for persons with severe disabilities are:

1. Establishing mechanisms for agencies to reallocate funds to improved employment outcomes for persons with disabilities.
2. Providing on-going client support in the community at job sites, based on the client's need for intervention to retain competitive jobs.

3. Affecting smooth transition of responsibility for client support from time limited service provided by the state vocational rehabilitation agencies to on-going support from agencies which traditionally support day activity programs and sheltered workshops.

4. Establishing appropriate intervention service rates for service providers and promoting an appropriate financial accounting system which delineates client specific costs.

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Table 1

Types of Data Provided by Placement and Training Agents

SUPERVISOR EVALUATIONS - In order to evaluate program efforts at job placement and client work adjustment, supervisor evaluation over time is a valuable measure. It is important to maintain regular evaluations because a one-time only assessment may not capture the supervisor's true feelings on that day. Also, the client's work performance may change over time, especially in the early stages of placement. A regular evaluation will be sensitive to these changes.

INTERVENTION TIME - A detailed account of all time spent by team staff would be broken down by date, hours, and minutes. The time categories are described in the next section on funding issues.

OBSERVATIONAL DATA - Specific behavioral programs are often required to maintain clients in competitive sites. Specific behaviors/skills/problems are recorded when necessary. This information would be provided.

INCIDENT REPORTS - When an incident occurs that is job threatening, the job coach must respond immediately to prevent a bad situation from getting worse. The following areas are considered and a written report is provided:

1. Situational antecedents 2. Incident/response 3. Resulting consequence 4. Comment/intervention strategy.

JOB SKILL REQUIREMENT/TASK ANALYSIS - A detailed breakdown of the tasks required to successfully complete the specific job is developed from employer/coworker interviews, observation, and, when necessary with employer consent, job modification. The job requirements can frequently be, re-sequenced, coworker traded, and/or generally streamlined to better accomodate the severely disabled mentally retarded employee. This job description will be provided to the rehabilitation counselor and updated periodically.

SUMMARY REPORT - A written review of the participant's employment and community status will be provided. Status changes such as hours worked, hourly wage, intervention time this period, cummulative intervention time, and projected future intervention needs would be provided.

Table 2

Client-Specific Intervention Time Definitions

1. Time On-Job - time spent at a client's job-site while the client is at work.

   a. Time Active - time actually spent working with the client, managers, supervisors, coworkers, or customers, including active observation. Includes anything which is done on-the-job to help the client, in a direct sense.

   b. Time Inactive - time between periods of active intervention. This is time during which the trainer-advocate (for fading purposes) has removed him or herself from active involvement with either the client, managers, supervisors, coworkers, or customers, and would leave the premises except that s/he intends to become "active" again shortly.

      Note: if the time away from the client and others is used to make work-related phone calls, write letters, or in similar activity, it would be recorded elsewhere for the appropriate client and not as "inactive."

2. Time Off-Job - time spent working for a particular client, but not at his or her job-site unless the client is not at work at the time.

   a. Travel or transport time - time used in either traveling to a job-site, meeting, or client's home, or in transporting a client somewhere, such as to work, the doctor's, an interview, or home. This does not include time spent returning from a job-site, meeting, or client's home, or from a place where the client was left after having been transported.

   b. Training time/guidance - time spent in either of these activities with a client while s/he is not at work. Problem categories would include: money handling, transportation, family, grooming, job skill practice, etc. In a situation where staff is meeting with a client and others, for example, his parents in their home, the question of whether to report that time here or under "employment advocacy" would depend on the primary focus of the meeting. It would be possible to report half the time of such a meeting here and half under "employment advocacy".

   c. Client program development - this is time spent developing intervention plans, analyzing a person's situation, or increasing the knowledge base concerning a particular client through discussion, file review, etc.

   d. Employment advocacy time - time spent advocating with other persons on a client's behalf, for purposes directly related to the client's employment. Such persons would include parents, employers, coworkers, customers, bus drivers, and bus information-persons. Activities reported here would include: job identification, job development, talking with a manager when the client or trainer-advocate is not on-the-job and discussing the value of work with parents.

e. Non-employment advocacy time - time spent advocating with other persons on a client's behalf, for purposes not directly related to the client's employment. Such persons could include group home staff, bank personnel, doctors, landlords, and case managers. Activities reported here would include helping with new living arrangements, discussing a client's seizure disorder with his doctor, opening a bank account, and arranging for counseling.

f. Client screening/evaluation - time spent either screening client to determine eligibility for services or time spent evaluating the employability of eligible clients. Any time spent analyzing information relevant to a client's employment potential is included here. The following when done for the purpose of screening or evaluation would be included here:

a. reviewing client records;
b. client interview;
c. communication with parents/guardians/ involved agencies;
d. observation of client in real or simulated work setting;
e. job client compatibility assessments

Table 3

Monetary Components of a Supported Work Model
Based on Hours of Intervention

Component	% of Hourly Rate	RRTC Estimated Rate
*Direct Service Professional Staff Costs (wages and fringe benefits).....	64%	(15.00)
Occupancy Costs (office space for staff, 100 sq. ft. per).....	2%	(.47)
Support Costs (telephone, postage, computer time, office supplies, equipment).....	4%	(.96)
Transportation Costs (300 miles at .215 per mile).....	3%	(.60)
Administrative/Clerical Costs (15% per direct service staff).....	27%	(6.41)
TOTAL.....	100%	(23.44)

*Non-client specific staff costs must also be considered to allow for administrative work, staff development, team meetings, etc. This non-client specific time is estimated to be approximately 30% of staff time. The number of staff hours available for client-specific intervention then would be the total staff hours minus 30% (46 * 40 = 1840 - (.30 * 1840) = 1288).

**A more detailed budget breakdown is presented in the RRTC Vendor Proposal to Virginia's Department of Rehabilitative Services, (Hill, 1984).

Table 4

Estimated Mean Costs Per Phase

PHASE	PHASE DURATION	MEAN INTERVENTION HOURS	UNIT RATE	MEAN PHASE COST
Initial site training	8 weeks	92	$23.44	$2156.48
Fading/ adjustment	8 weeks	36	$23.44	$843.84
Stabilization	8 weeks	23	$23.44	$539.12
Follow-up/ Maintenance	Annual	(17 / 8 * 52 = 110.5 hrs)	$23.44	$2590.12

Table 5

Development of Transitional and Supported Work
Through Vendored Service With State and Local Public Service Agencies

1. Establish the need for the service.

   a. Do current existing services meet all client competitive employment needs?

   b. Is transitional supported work currently on the menu of services for the rehabilitation counselors and/or case managers?

   c. Can support letters be obtained from:
      1. The Commissioner of the Rehabilitation Agency
      2. The Regional Directors
      3. The Rehabilitation Counselors
      4. Parents/Guardians
      5. A representative of the Developmental Disabilities agency
      6. A representative of the Department of Mental Health/Mental Retardation

2. If service is needed and supported then prepare a "Request for Approval as Vendor for Transitional Supported Work"

   Sections to include are:

   a. Purpose of request
   b. Background or description of existing inadequate services
   c. Definition of services to be provided
   d. Define how the model can fit into the current existing system
   e. Emphasize the importance of and describe the case managers roles
   f. Discuss monetary concerns and select an appropriate funding mechanism

      1. Intervention time as a basis for fee for service

      2. Rate Negotiation

      3. Projected Unit Rate

      4. Estimate costs based on previous intervention time histories

      5. Request block and/or hourly fee for service payment mode

3. Present Vendor Approval Request to Appropriate Agencies

   I. State Rehabilitation/Vocational Services

   a. Facility Division
   b. Vendor Services Division

   II. On-Going Day Support Agencies

4. If vendor request is:

APPROVED	NOT APPROVED
Develop Relations with Case Managers/ Rehabilitation Counselors	Request written explanation of disapproval
a. provide inservice to potential service users	Lobby with supportive persons; identify barriers; compromise
b. insure comfort in using service by including regional director in all aspects of operation	Modify proposal; resubmit for approval; return to 4

5. Request Authorizations for Service

6. Provide services to participants

7. Design communication system for effective interaction with service user

8. Bill/account for service provided

9. Validate service through performance indicators

   a. Intervention Time
   b. Wages Earned
   c. Hours Worked
   d. Months Employed
   e. Supervisor Evaluations
   f. Incident Reports
   g. Retention/Duration Index

10. If high utilization is evident, expand service delivery services. If utilization is low, advocate at regional or state level to help stimulate local counselors to request the service.

11. Establish Interagency Agreements to Insure Initial Training Needs and Follow up and Maintenance Services

The following state and local agencies as well as others may need to be involved depending on the state system of service.

Department of Rehabilitative Services
Developmental Disabilities
Mental Health/Mental Retardation Agency
Community Services Boards
Public Schools

Figure 1

Time Limited Services and Supported Employment for Persons With Severe Disabilities

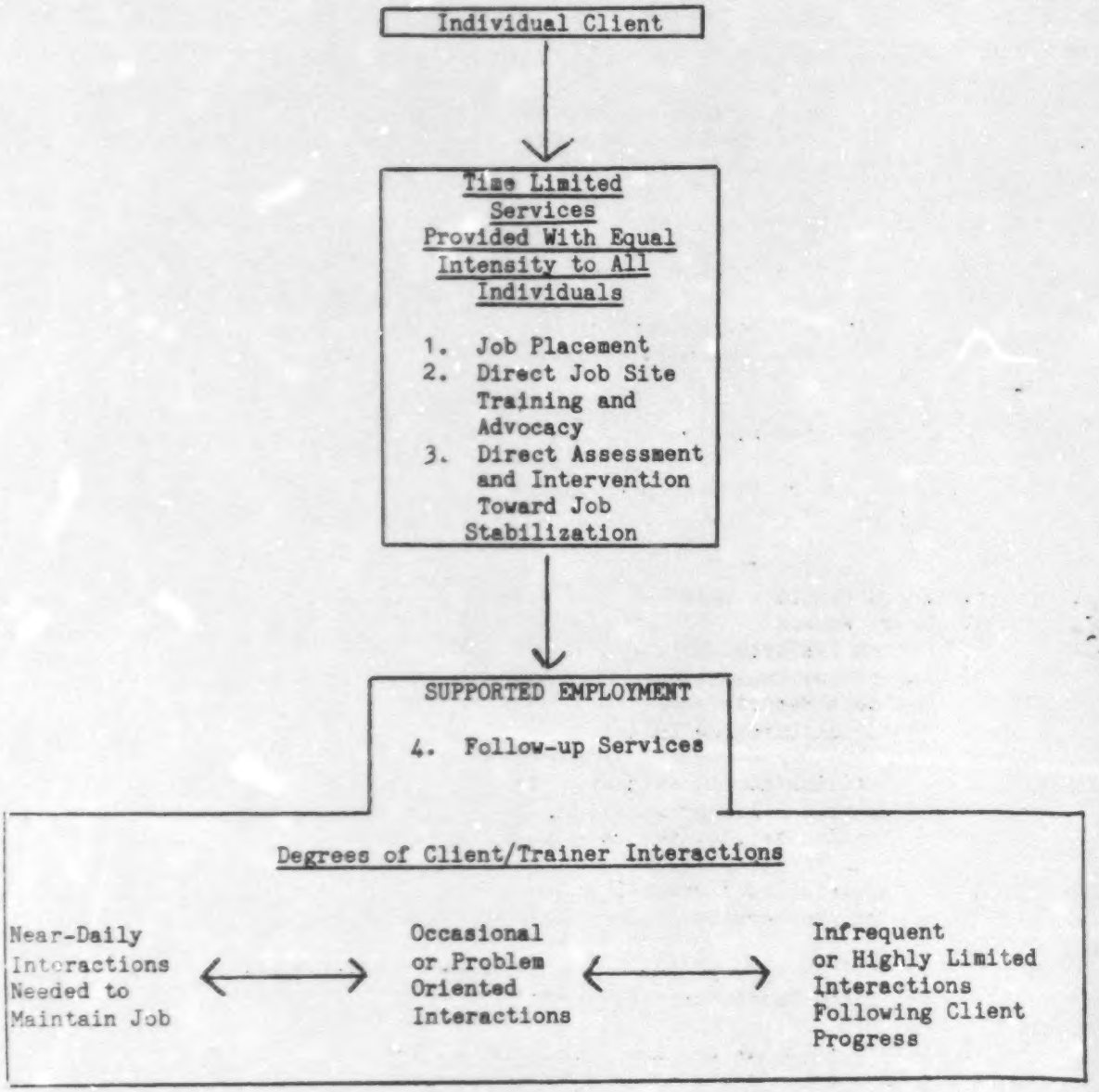
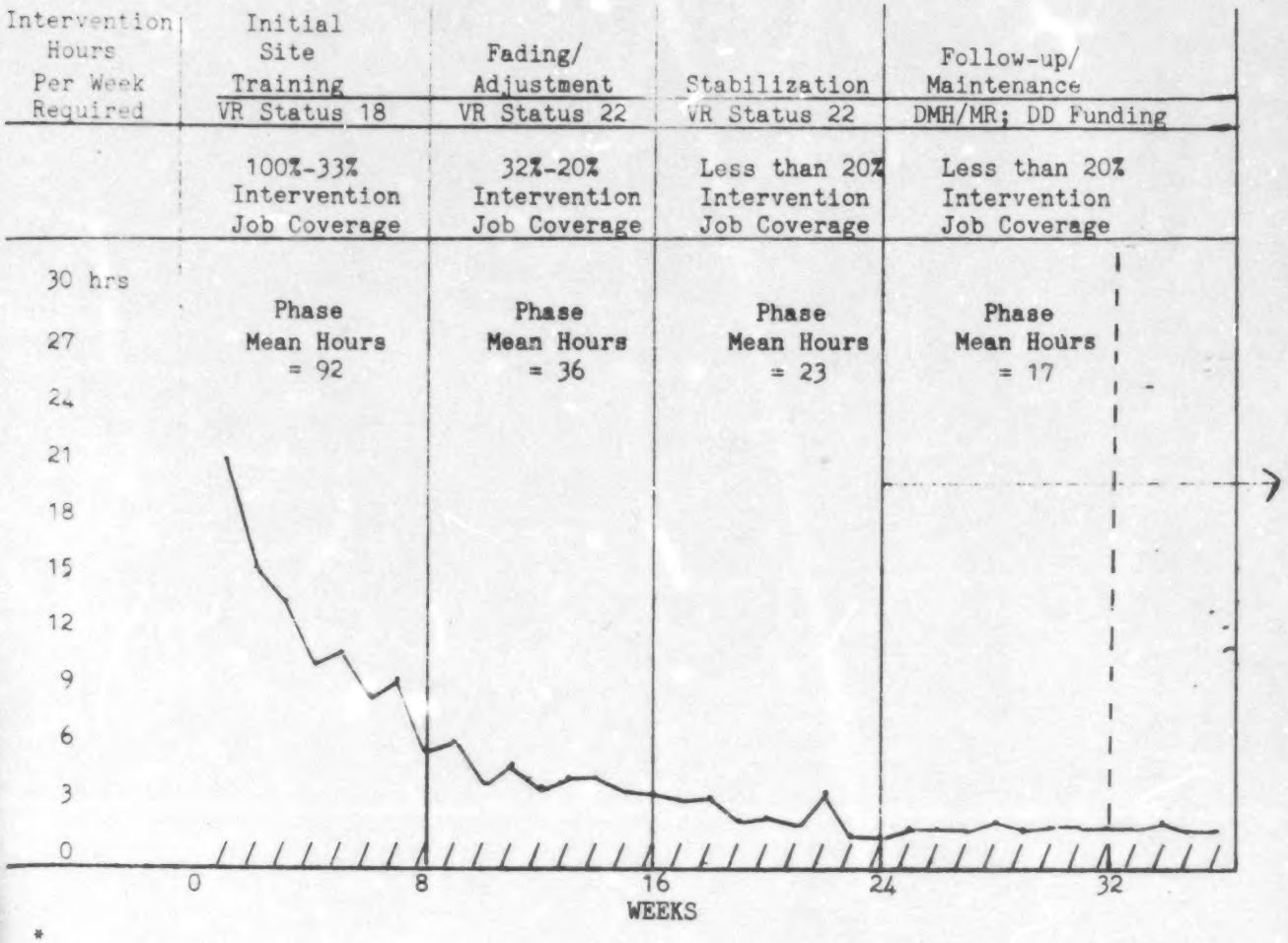

Individual Client
Time Limited Services Provided With Equal Intensity to All Individuals
1. Job Placement
2. Direct Job Site Training and Advocacy
3. Direct Assessment and Intervention Toward Job Stabilization
SUPPORTED EMPLOYMENT
4. Follow-up Services
Degrees of Client/Trainer Interactions
Near-Daily Interactions Needed to Maintain Job
Occasional or Problem Oriented Interactions
Infrequent or Highly Limited Interactions Following Client Progress

FIGURE 2

AN INTERAGENCY TRANSITIONAL MODEL
FROM TIME LIMITED TRAINING TO SUPPORTED WORK:

HOURS OF STAFF INTERVENTION REQUIRED TO MAINTAIN CLIENTS IN COMPETITIVE EMPLOYMENT *



* Project Employability May 1978 - February 1984; Full and part time positions.

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Section II: Transition From School to Work

In this section there is a specific focus on papers which examine follow-up data from mentally retarded graduates in Virginia. These data look at employment status as well as independent living competencies of this sample. A lead paper in the section presents a model for vocational transition followed by other papers on the public school role in improving employment opportunities and what teachers can do to improve curriculum. This section reflects the national priorities for more attention to transition.

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